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The validity of the existential distinction between psychotic and neurotic subjective experience

Sander Gary Genser
Yale University

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By
Sander Gary Genser
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I would like to express my gratitude to
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INTRODUCTION

"I was so frightened by the book, that I had to put it down after reading the first few pages!" This statement, made by an acutely schizophrenic twenty-eight year old woman newly admitted to Thompkins 1, lead directly to this study The book that she is refering to is The Divided Self by R.D Laing - an attempt to delineate existential -phenomenological foundations for the understanding of psychosis. Throughout his work Laing is primarily concerned with description of the subjective experience of being psychotic and the world-view implicit in that experience. Thus it is not surprising that this patient, in the midst of becoming overtly psychotic during the week preceding her admission to Thompkins1, should be frightened by an accurate description of her feelings labeled "psychotic!" The assumption that the accuracy of Laing's description frightened this patient naturally lead to an exploration of the work of other theorists loosely categorized as being the existential-phenomenological school- including Binswanger, Frankl , Weisman, and Mac Nab. Together, they were found to describe the subjective world of the psychotic in such rich and provocative terms, that it seemed apparent that a test of the validity of their formulations would contribute to an understanding of what, if anything, differentiates the world-view of the psychotic from that of the non-psychotic. This study is an attempt to discover if these descriptions do distinguish the subjective experience of a group of psychotic patients from that of a group of neurotic patients, and if so, which particular parts are most relevant to the discrimination.

The following chapters consist of :

1. An explanation of the theoretical bases of the study

2. A detailed description of how the study was conducted

3 A presentation and discussion of the results and conclusions followed by a summary

CHAPTER 1 - THEORETICAL FOUNDATIONS

Definition of The Existential-Phenomenological School

According to May, the original impetus for Edward Husserl's development of psychiatric phenomenology was the realization that "the mental patient lives in another subjective world that we do not understand and cannot enter." Faced with the choice of either giving up all hope of understanding[1] this world or developing methods more adequate to the task, Husserl developed his phenomenological technique of observation. This method requires the observer to exclude from his mind not only "any judgement of value about the phenomena observed but also any affirmation whatever concerning their cause and background. Thus, says Benda, "It is the nature of phenomenology[2] that it concerns itself with psychic phenomena as they appear in our experience, as unmanhandled as possible."[3]

Three basic phenomenological methods have been applied to the study of the patient's subjective states of consciousness: 1. descriptive phenomenology which focuses on patient's accounts of their experiences. 2. genetic - structural phenomenology which attempts to reconstruct the patient's state of consciousness as a unity derivable from a common "genetic" factor and 3. categorical analysis which analyses and reconstructs the patient's experiences in terms of "phenomenological co-ordinates" as time, space, causality and materiality. However, all methods of phenomenological analysis have their basic[4] aim the reconstruction of the inner world of the patient.

Existential analysis uses the aforementioned methods of phenomenology within the following view of man as first elaborated by Kierkegaard and enlarged upon by Heidegger. Man's existence (DASEIN) is seen as peculiar to him and in contrast with the

existence (VORHANDENSEIN) characteristic of inanimate objects.[5] Man constructs himself through his choices and possesses the freedom to choose between 1. an "authentic" mode of existence in which he assumes responsibilty for his choices and thus himself and 2. an "inauthentic" mode in which he renounces his freedom to the tyranny of the "crowd"-the anonymous collectivity.[6] In order to move from inauthentic to authentic existence man must experience and accept "existential anxiety" defined as the anxiety of a man facing the limits of his existence with its fullest implication: death or nothingness.

Heidegger defines "being-in-the-world" or Dasein or "the being of a self in its inseparable relations with a not-self, the world of things and other persons in which the self always and necessarily finds itself inserted."[7] This manner of existence is "constitutive" of the individual in that there can be no separation between the world as experienced by the individual and the one who experiences it. The immediate world of the individual becomes that of his preoccupations, tasks, concerns, cares and pursuits rather than a world of inanimate objects defined by their "objective" reality. Objects or things are defined by the system of relations in which they exist. For example the needle implies the thread. Thus the objects with which the individual is concerned are not isolated things but are tools whose positioning relative to other objects determine their function just as the placement of a brake on a wheel determines its function as a brake. The existentialists replace the abstract geometric Cartesian space of physics with a "qualitative space" in which the world is organized in terms of man's preoccupations.

Existential analysis, founded by Binswanger, is a synthesis of phenomenology, psychoanalysis and Heidegger's existentialists concepts with the aim of investigating the entire structure of existence of the individual from a developmental point of view. It differs from pure phenomenology in 1. going beyond the investigation of states of consciousness to that of the entire structure of existence for the patient, 2. emphasizing that the individual may live in several conflicting worlds and 3. relying on a psychoanalytic biographic investigation to reconstruct the development of the individual's "worlds". Binswanger's frame of reference in existential analyses[9] consists of existential modes which define the possibilities inherent in the D asein for different types of relationships with one's fellow men. Examples include 1. the dual existential mode covering various forms of "intimacy" as brother-sister, mother-child, lover-beloved 2. the plural mode corresponding to formal relationships involving competition and struggle 3. the singular mode including man's relationships with himself and 4. the anonymous mode covering the individual living and acting as an anonymous member of a group. Binswanger recognizes that the "self" may change according to the "modes" in[10] which it operates since, as illustrated by the aforementioned existential view of objects, purposes and concerns of the individual are not his attributes but are recognized as constitutive of his entire being-in-the-world

In summary, the existential-phenomenological school may be characterized by use of the phenomenological method to describe a purposive "man" inseparable from his world. Although the ecstatic recognition of the validity of subjective experience by the school would seem to increase the probability that the world of the psychotic could be accurately described, the relationship of the school to natural science must be further explored.

Science Verses Dasein

Miller states that the existential movement as a distinct group in American psychiatry has remained diffuse, publishing only two journals and having very few articles appearing in others.[11] One wonders if an apparent INVULNERABILITY of existential-phenomenological assertations to the quasi-scientific objective testing methods presently popular in the social sciences has contributed to the persistent obscurity of this school. An ancillary, though not trivial, purpose of this study is to show that methoods do exist that can translate the understanding of Binswanger and the other existentialists of the "World" of the psychotic patient into a form that can be judged by other patients. However, the first step must be a comparative examination of the structure of science and existential phenomenology.

According to Needleman, "systematic philosophical explanation must lie at the mean between two opposing forces of human thought - 1. the reductive tendency, which attempts to reduce all phenomena to a minimum of basic substantialities, and 2. an acquiescent tendency, which accepts every thing or idea on its own terms."[12] The former carried to extremes would lead to , for instance, explanation of religious acts in terms of molecular interaction of brain cells while the latter would support the claims that <u>all</u> systems are true to some degree. An ideal explanation which avoids the traps at both ends of the dichotomy must "keep that which is to be explained intact as it appears and at the same time to reduce it as much as possible to that with which we are already familiar, of which we have knowledge , or more generally, that which is considered a basic reality.[13]

Existential phenomenology, with its emphasis on accepting the phenomenon as it appears, can lead to an encyclopedic reiteration bereft of understanding However, phenomenology does not stop with "absolute faithful description" but requires "examination until the essential phenomenal structure of the entity is revealed!" The essential feature of this examination is an exclusion of all "interpretations that transcend the given", according to Husserl. Thus one may distinguish between phenomenological understanding and scientific explanation where the former implies solely participation in the phenomenon until one " sees in it structure that emerge from its side, and not from ours." The latter leads to the reductionistic transformation of phenomena since that they are either subsumed under laws that relate them to each other or broken downinto parts. In any case, the approach of scientific explanation results in a loss of the phenomena's wholeness or independence while that of phenomenological understanding leaves the phenomena well scrutinized but intact.[14][15]

One further important distinction between the existential-phenomenological and the scientific approaches is recognition by the former of man's consciousness as not only transcendent in the sense of always referring beyond itself but intentional or purposeful. Psychology, if emulating natural science, is obligated to ignore this constitutive attribute of consciousness (since intention or purpose is excluded from the field of inquiry) and is thus forced into behaviorism.

Given these differences, one wonders if it is possible to say that existential-phenomenological analysis yields "scientific" facts about man. The answer to this question lies in distinguishing between various types of fact. Precise

facts are the "staff" of natural science, defined by Koestenbaum as fact that "can be described more or less unambigously, that can be measured or compared to some standard, that can be symbolized or expressed numerically, that are public, etc. Fringe facts, those characteristic of man and usually dealt with existential-phenomenological methods,[16] are so-called subjective or inner events that are perceived by introspection and are "vague, elusive, etc." A hybrid of the two, "quasi-precise facts," are result of the attempt by the behaviorial sciences to reduce fringe facts to precise facts.[17] The need to eliminate the intentionality characteristic of fringe facts to convert them to precise facts[18] amenable to scientific study creates quasi-precise facts which are neither precise or applicable to man. The problem of incompatability between existential phenomenology and science may be resolved if the similarities between fringe facts and precise facts (which allow us to call both of them facts) are sufficient to make the scientific method applicable to fringe facts.

Koestenbaum contends that any "fact" is an experience by an individual with the distinction between fringe and precise facts being that the former may be described with accuracy but not precision.[19]

For example, consider a fringe fact as the fact of being psychotic. By restoring to various devices such as metaphors, poetic language, or works of art, one may satisfy intuitive criteria of accuracy in describing the state of being psychotic. However, one can not establish a precise one-to-one correspondence between elements of the description and elements of the fact because it is a fringe fact and thus is not reducible (explainable)

but is only understandable. We must recognize that although fringe facts can only be understood by phenomenological methods they are just as legitimately facts as precise facts. When a fringe fact has been elucidated accurately one may "graft upon these facts the CANONS of scientific inference." According to Koestenbaum, the acceptable combination of phenomenological researches and statistical techniques occur when the former are used as "trial balloons which test the fruitfulness of certain hypotheses and in turn make specific recommendations for statistical investigations. The objective of this study may then be legitimately formulated a 1. taking the result of certain theorists existential-phenomenological understanding of the world design (DASEIN) of the psychotic 2. presenting it to patients who others have accurately judged as being psychotic or neurotic and 3. allowing the patients to impress their own world -design upon this framework so that we can see to what extent the phenomenological understanding really does differentiate between these two types of patients.[21]

Describing The Existential A priori

Now that we have a theoretical basis for attempting to test the existential-phenomenological understanding of the world-design of the psychotic, we must further define the concept of"world-design" in order to be able to see how it may be described.

First, let us consider the psychotic who has a vision of the Holy Virgin. For Binswanger the question is not one of the psychotic not <u>really</u> seeing the Holy Virgin, but only thinking that he is. Binswanger accepts the the fringe fact of the psychotic seeing the Holy Virgin but asks, "What does

the Holy Virgin mean for him?" Binswanger thus concretely expresses the existential-phenomenological tenet that "there is no fact, no pure, absolute perception isolated from a general world-design and outlook."[22]

In the act of auscultating a heart one is adopting a particular world outlook - that of natural science. However, in the attempt at understanding the world of the psychotic one can not choose among various perspectives as that of natural science or that of "normal" men but must "exhibit the particular a priori existential structure" which makes the phenomena clinically diagnosed as symptoms of psychosis possible.[23] In order to accomplish this task one must (only after presuppositionless phenomenological gathering of data) attempt to "apprehend that over-all transcendental structure that makes it possible for phenomena to be phenomena for the patient; that which makes it possible for facts to be facts in all regions of the patient's experience; temporal, spatial, personal, social, and so forth." This structure, termed the "Existential A Priori" is considered the key to understanding the psychotic in that "it represents the meaning matrix in which all phenomena appear as phenomena to the patient. The world of the patient, insofar as constituted by the Existential A Priori, is his world design.[24]

The concept of world design of the patient as the Existential A Priori being expressible as a meaning matrix forms the basis of Binswanger's conception of theimportance of verbal behavior. He states that, "the content of existence can nowhere be more clearly seen or more securely interpreted than through language; because it is in language that our

world-designs actually ensconce and articulate themselves and where, therefore they can be ascertained and communicated."[27]

The essence of language phenomena is that they contain "an infinitely manifold and yet certain content of meaning" so that Binswanger, as an existential-analyst, is concerned with "the content of language expressions and manifestations insofar as they point to the world-design or designs in which the (patient) lives or has lived."[28] In the understanding of the world-design of the psychotic, Binswanger believes that the first task is to,"assure ourselves over and over again, of what our patients really mean by their verbal expressions." "Only then," he states," can we dare to approach the scientific task of discerning the"worlds" in which the patients are..... and only after having encompassed these worlds and brought them together can we understand the form of our patient existence in the sense of what we call"neurosis" or"psychosis!""[29] Similarly Weisman's concept of organic meaning as "the meaning which is unique to (the) patient's personal experience" and his recognition that "the proper study of man begins with how his meanings are created" constitute our explicit parallel to Binswanger's recognition of the central role of the meaning matrix in the understanding of the individual's world-design.[30]

Psychotic Being-In-The-World

Knowing the importance of verbal description in understanding the world design of the psychotic, we now summarize the result of certain theorists existential-phenomenological investigation of their design with the objective of being able to incorporate

it into a "testable" form.

The concept of existential choice is inherent in all of these descriptions since man is seen as free to define his world-design (and thus himself) As Weisman says, " Antithetical trends are inherent in every natural process; any set of concepts allows for bi-polar ideas." Man is seen choosing to organize his being-in-the-world[31] according to various general themes represented by sets of alternative or bipolar ideas with the number of these dimensions used measuring the richness of the individual's Existential A Priori. The actual choices made within each dimension partially determine[32] the individual's basic choice between authentic and inauthentic existence. However, in a crude sense degree of authenticity of existence is seen as directly proportional to the product of the number of dimensions of the Existential-A-Priori and number of choices that re-affirm man as a subject rather than an object. Mental illness of various kinds as seen as inversly proportional to the aforementioned factors and thus implies a constricted Existential A priori and a view as man as an object. This framework may be applied to the understanding of thepsychotic world design

Binswanger states that the emptier, more simplified, and more constricted the world design to which an existence has committed itself the sooner will anxiety appear and the more severe it will be. Psychosis[33] is seen as the overpowering of the Dasein(human existence) by one unidimensional world-design as illustrated by the bipolar set of qualities:"continuity - discontinuity","consistency - inconsistency" or"order- disorder"[34] The psychotic or more specifically the schizophrenic is seen

as experiencing a breakdown of the normally consistent "natural experience in which our existence moves not only unreflectively, but also unproblematically and unobtrusively, as smoothly as a chain of natural events."[35] This unendurable disorder makes the taking of a strong stance a matter of preservation of existence leading to "the splitting off of experiential consisting into alternative, into a rigid either-or."[36] The Dasein, in an attempt to regain the consistency of experience must stick to the chosen alternative or risk the anxiety of either succumbing to the other alternative or of bring torn between the two. So the other side of the chosen alternative must be covered or hidden to butress the decision. The antinomic tension or tensions between the alternatives experienced can only lead to the final renunciation of psychosis, a giving up of independent autonomous selfhood (of the remnant authentic existence) and the adoption of a stance of passive suffering as an object or thing (inauthentic existence). Binswanger sees the "falling apart of temporality"[37] so that time itself is discontinuous, the past predominates, no hope is seen for the future and inner life comes to a halt with feelings of unreality dominating.[38]

Laing postulates ontological insecurity, a state of precarious differentiation from the rest of the world, as the existential position from which the psychotic state grows in response to the threat of non-existence.[38] The ontologically insecure person as characterized by Laing is similar, if not identical, to the potential psychotic of Binswanger. Such a person may feel "more unreal than real", more "dead than alive", more "insubstantial thansubstantial."[40] He may lack"the experience of his own temporal continuity" and a sense of personal

consistency or cohesiveness" and he may feel that his "self" is partially divorced from his body. Such a person is subject to three forms of anxiety as his existence is threatened: engulfment, implosion, and petrification.[41] Engulfment is felt as a risk in being "understood (thus grasped, comprehended), in being loved or simply in being seen."[42] The risk is bipolar and expressable by the alternatives of complete loss of being by absorption into the other person (engulfment) and complete aloness (isolation) Implosion is the threatened impingment of reality into self, that " like a vacuum, feels empty" and petrification is the risk of becoming a thing (object) rather than a person.[45] The split between the real self and the body seen in ontologically insecure people leads to the idea of the true self as hidden and protected from a world that threatens it with the aforementioned forms of anxiety. The confrontation of this threatening world of reality by defensive systems of "false selves", whose danger leaves the real self unaffected, leads to an intensification of the discontinuities of experience. Actual psychosis results as the true self is removed from stabilizing contact with reality when the false-self system becomes more and more extensive and autonomous in response to the increased perception of threat to the true self.[46] Laing summarizes his views concerning the position of the self and the false self in the schizophrenic as follows: "The divorce of the self from the body is something which is painful to be borne and which the sufferer desperately longs for someone to help mend, but it is also utilized as the basic means of defense. This, in fact, defines the essential dilemma. The self wishes to be wedded to and embedded in the body, yet it is constantly afraid to lodge in the body for fear of there being subject to

attacks and dangers which it cannot escape. Yet the self finds that though it is (divorced from) the body it cannot sustain the advantage that it might hope for in this position." Thus the following sequence of events takes place: 1. The true self's "orientation becomes a primitive oral one, concerned with the dilemma of sustaining its aliveness, while being terrified to 'take in' anything." 2. The true self, desolate and isolated, becomes "charged with a hatred of all that is <u>there</u>. The only way of destroying and not destroying what is there may be to destroy itself." 3. An attempt to kill the true self may be undertaken defensively ("If I'm dead, I can't be killed') or in "an attempt to endorse the crushing sense of <u>guilt</u> that oppresses the individual (no sense of a right to be alive)." 4. The true self becomes "split and loses its own identity and integrity" (<u>wholeness</u>) 5. "It loses its realness and direct access to realness outside itself." 6. "(A) The place of safety of the self becomes a prison. Its would-be haven becomes a hell. (B) The self ceases to have the safety of a solitary cell. Its own enclave becomes a torture chamber. The inner self is persecuted within this chamber by split concretized parts of itself or by its own phantoms which have become incontrollable." [47] The alternative ordering of experience that is inextricably intertwined with the potential of undergoing the preceding series of events and becoming psychotic is the root of the psychotic's bizarrness and incomprehensibility. Laing agrees with Binswanger in stating that this "alternative ordering" is reflected in the language of the individual

Neither Macnab nor Frankl differ significantly from Binswanger and Laing in their understanding of schizophrenia in terms of the

threat of non-being perceived from the viewpoint of existential insecurity and responded to with the defensive attempt at constriction of existence leading to inauthenticity. However, Macnab sees the uniqueness of the schizophrenic mode of being in the fact that "the person's self and his world tend to fall into fragmentation and confusion, his capacity to organize and relate meaningfully is lost."[48] Schizophrenia as a mode of being "may manifest wide variations (changeable) from one time to another, and may fluctuate from apparent normality to the extremes of suffering and insanity." Yet the schizophrenic state is still seen as defensive in being "a way by which the schizophrenic can preserve some sense of security without entering into mutual and responsible (and threatening) relations."[50] The schizophrenic's insecurity due to his ontological sensitivity makes him fragile so that he must often resort to falsify, concealment, and diffusion" to preserve himself from the encroachment of reality. Since resolve and responsibility are meaningless to an"object"[51] or a person living unauthentically, he is said to be in a decisionless state in which his decisions may be extreme but are neither reliable nor effective. Frankl similarly speaks of schizophrenia as an "experience of pure objectiveness or passivizing"[52] in which "the schizophrenic expereinces himself as the object of the observing or persecuting intentions of his fellow men." However, even though in schizophrenia the issue is a person's "basic humaness"[53] for Frankl as for all these theorists "there remains that residue of freedom toward fate and toward the disease which man always possesses no no matter how ill he may be.[54]

Summarizing the result of this existential-phenomenological understanding of the world of the schizophrenic, I have underlined certain bipolar sets of adjectives that the aforementioned

theorists have used to characterize the world-design of the schizophrenic. These sets of adjectives pinpoint those dimensions of Dasein relevant to the particular world-design of the schizophrenic. Let us recapitulate and divide them into larger categories for the sole purpose of being able to grasp as a whole the proposed existential-phenonmenological picture of the schizophrenic. Other groupings of these adjectives are possible and the patients will havethe opportunity to determine the categories most relevant to them. However, the following is set up so that previously underlined words used by the theorists themselves serve as basis of the categories.

The organizing view of schizophrenia is as a mode of inauthentic existence in which a person experiences immenent loss of the qualities of freedom, activity and intentionality which define his existence as that of a person as opposed to an object. In the psychotic state a person thus experiences a loss of causal effectiveness-feeling destined versus free, irresponsible versus responsible, dependent versus independent, indecisive versus decisive, and like a thing as opposed to a person. A loss of the effectiveness of reasoning resulting in a deteriation of the ability to comprehend the world may be exposed or feelings that people or events are puzzling versus understandable, meaningless versus meaningful, disorderly versus orderly, emotional versus reasoning, or inconsistent versus consistent. One becomes increasingly vulnerable or powerless, feeling weak versus strong, sensitive versus insensitive, and feminine versus masculine and unstable, felling changeable, versus stable, unpredictable versus predictable, and fragile versus durable. Since one's very intactness is threatened one may feel incomplete versus complete, broken versus whole, or abnormal versus normal and one's view of the future may be pessimistic versus

optimistic, or dreading versus hopeful so that one feels anxious versus calm, tense versus relaxed, or shrinking versus growing. Although even thoughts of the past make one feel depressed versus elated, or guilty versus innocent, one's very solidity is threatened with feelings of being empty versus full, vague versus distinct and unreal versus real. Openness is so risky that one must remain hidden versus revealed, or dishonest versus honest or alone versus crowded, lest one's ultimate badness versus goodness result in the final transformation to an object (passive versus active).

The next question that must be answered, now that we have the existential-phenomenological picture of the world of the psychotic, is how can this view be presented to the patients for testing? The semantic differential provides the answer.

CHAPTER TWO

The Semantic Differential

The form of Osgood's Semantic Differential makes it a peculiarly suitable instrument for expressing the existential-phenomenological understanding of the schizophrenic patient.

In the Semantic Differential the patient is presented with a "concept" which may be a specific person as "my mother" a class of people such as "women", a specific object or class of objects. He is asked to describe this concept according to a set of any number of bipolar "scales" consisting of pairs of adjectives, adverbs, nouns, or verbs that are in some sense antonymous. The words representing the opposite poles of the scales are placed with seven equally spaced alternatives between them. For example, if the concept is "my mother" and a scale is "hard (1): (2) : (3): (4): (5): (6) : (7) soft" an"X" in position "1" (note - the positions are not numbered in the actual test) is the equivalent of the statement of the patient saying to the examiner "I am willing to indicate to you at this time under this set of testing conditions that I see my mother as being extremely hard."

Marks in position two through seven mean "respectively" "quite hard (2)", slightly hard(3)", "neither hard nor soft or equally hard and soft(4)", "slightly soft (5)", "quite soft(6)", and "extremely soft (7)". The adverbs "extremely", "quite", and "slightly" are used in describing the scale positions to the patient because data indicates that they convey the idea of equal "distance" between any two scale positions. Thus the results consist of of one judgement on each of the N scales for each "concept".

Osgood postulates "semantic space" - a Euclidean region of unknown dimensionality, as a way of representing these results. Each scale is "assumed to represent a straight line function that passes through the origin of this space and a sample of such scales then represents a multidimensional space."[56]

To define the dimensionality of the "semantic space" one must specify the minimum number of orthogonal axes needed to localize the position of any concept within the space.[57]

For example, let us say that A. "my mother" is judged extremely good, quite honest and slightly weak B. "my father" is extremely strong, quite dishonest, and quite bad and C. "myself" is seen as extremely weak, slightly dishonest, and slightly bad. One may determine experimentally from applying the scales good-bad and honest-dishonest to many people judging the concepts or one person judging them several times that these two scales are so highly correlated that they may be considered to determine the same direction in semantic space. Only scales that are uncorrelated are orthogonal to each other (an thus vary independently) and may be considered as describing different dimensions of semantic space. Scales or sets of scales that satisfy this criterion with respect to each other may be defined as factors. So, in our example let us assume that strong-weak is uncorrelated with the other two scales. This means that although three scales are used to describe "my mother", she may be placed in a semantic space of only two dimensions-where one dimension is represented by the scale strong-weak and the other by some function (perhaps the mean) of the other two scales as follows in figure 1.

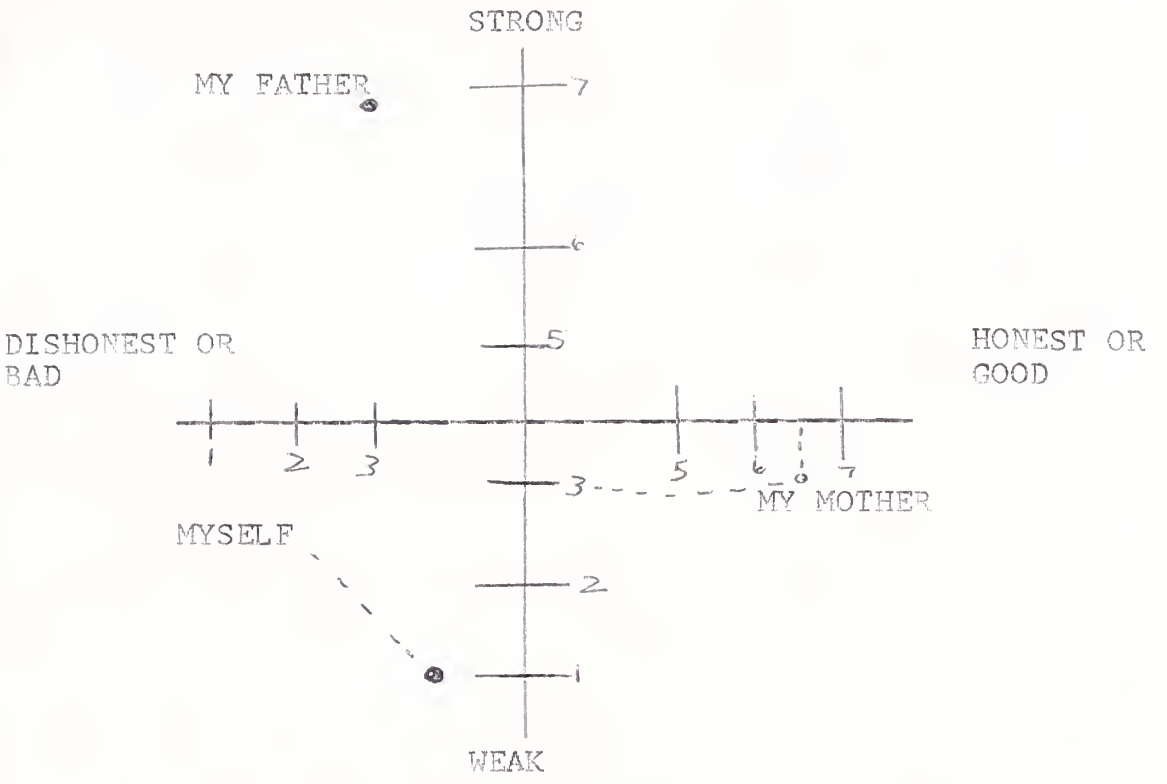


Figure 1 : An Example of Concept Representation In Semantic Space

One may note that the origin of the two dimensional space is located response position "4" on both scales. The direction of numbering of each scale is completely arbitrary. However, the equal distance between scale positions must be reflected in equal intervals between the numbers assigned to the positions and origins must occur at the mid-point of the scale. Although the question of dimensionality of the semantic space is central to this study, the concept of semantic space permits several meaningful comparisions between and within individuals and groups and thus should be clearly described.

Osgood defines the meaning of a concept for an individual as "that point in semantic space identified by its co-ordinates on several factors." Thus for all the persons whose semantic space is pictured in Figure 1, the meaning of "my mother" includes the judgement of extreme goodness and slight weakness.

Three important points are thatthis description 1. does not necessArily exhaust the meaning of "my mother" for this person 2. is made at a pint in time and is not necessArily an indication of what "my mother" usually means to this person and 3. may be variably determined by the relationship of this person to the one who has asked him to make these judgements.

The importance of the first of the aforementioned points is a direct outgrowth of Osgood's definition of meaning. Firstly, in using the semantic differential we are elucidating connotative rather the denotative meanings so that in the example we may conclude that the connotations of "my mother" to the person include extreme goodness and slight weakness. It is this type of meaning that is unique to one's personal experience, thus fitting Weisman's definition of organic meaning (P.11). Furthermore, one might imagine that someone has described his mother several times using as scales all the bipolar pairs of adjectives, adverbs, and verbs in his vocabulary. The scale may then be grouped into N-independent factors by analyses of their intercorrelations. The factors become the axes of the individual's N dimensional semantic space and at any time the exhaustive connotative or "organic" meaning of the concept "my mother" is represented as a "point" in this space having the appropriate values or scores on each of the axes or factors. The factors themselves may be named appropriately according to the apparent similarity in meaning of the various component scales. For example, the factor represented by the scale dishonest-honest and bad-good may be called an"evaluative"factor. In Figure 1 we may imagine that an individual with a vocabulary consisting of three sets of bipolar adjectives and three nouns (myself, my mother, my father) has described the latter with the former as scales. The scales

have been"factor analyzed" and have given two orthogonal factors so that the dimensionality of the semantic space of the individual is two and the space can be represented by a two dimensional figure on the graph. Furthermore, the"meanings" of the various people to the individual have been represented as points in this space. The process of placing all the rated people on the same set of axes assumes that the scales would separate into the same two factors if each one was being judged separately.. i.e. that the factors are stable accross individuals described. Osgood had analyzed the data from many people (students) judging not only other individuals but objects and concepts accross a broad sample of scales derived from a Thesauras and found that "despite instability of individual scales (intercorrelations), there is considerable repeatability (and hense comparability) of the major factors accross the concepts being judged."[60] The result indicates that at least this group of people tends to exhibit a consistency of the factors used in judging various concepts-a consistency that Osgood has also demonstrated in single individuals including neurotic AND schizophrenic patients.[61] Thus the assumption that the structure of the semantic space of individuals is consistent across time and concepts judged appears tenable and it is legitimate to place concepts or people described by an individual on the same set of axes or within the same semantic space.

A person may theoretically describe all the nouns in his vocabulary using as scales all the bipolar pairs of verbs, adjectives and adverbs. Assuming that factor analysis of the scales gives N factors and the person has judged M nouns we see that since each noun has a "score" in each factor the results

can be represented as a matrix of size M (nouns) by N (factor scores for each noun) plus a matrix of size S (number of scales) by L (loadings of each scale on each factor). The former matrix would be a representation of the connotative or "organic" meanings of all nouns (and thus the objects and concepts represented by them) to the individual. It would be organized according to his vocabulary with the factor being defined by him according to his way of odering his world. In final analysis the semantic differential provides a form within which the individual can describe the personal subjective meanings associated with any object or person. Therefore, the results become the meaning matrix described by Binswanger as the direct expression of the Existential-A-Priori or world-design of the person (P. 10)

Limitations to the identification of the matrix of the semantic differential with Binswanger's meaning matrix include the fact that the latter is dynamic while the former is made at a point in time. However, the previously cited evidence of the consistency of the factor structure derived from the semantic differential and the ease of re-administration of the differential to test this consistency over any period of time in individual cases makes this a minor objection. The aforementioned possible variability of the semantic differential results according to the relationship between the "subject" and the administrator of the test is minimized by the briefness and neutrality of the contact and standardization of the procedure of administration.

Having identified the meaning matrix derived from the semantic differential with Binswanger's conception of the Existential-A-Priori, we must now look more closely at the process of factor analysis. This procedure enables us to

define the factors that comprise the structure of the Existenial-A-Priori and, as we shall see, gives us a description of that structure that will enable us to make several comparisons between individuals or groups.

Factor Analysis

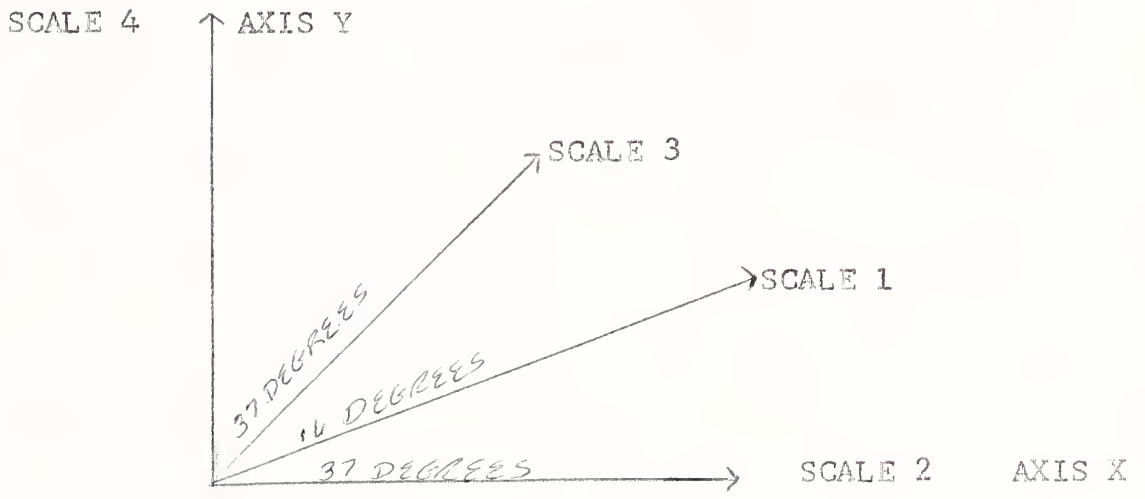
In describing the process of factor analysis we will consider first the representation of the intercorrelations among four variables or scales as given by Fruchter in Table 1.[62]

Table 1 Intercorrelations Among Four Scales

	1	2	3	4
1	1.00	.80	.96	.60
2	.80	1.00	.60	.00
3	96	.60	1.00	.80
4	.60	.00	.80	1.00

These intercorrelations may be geometrically represented with each scale becoming a vector (V) and the correlation between any two scales (N and M) equaling the product of the length of the two vectors and the cosine of the angle (A(N,M)) between them i.e. R(N,M)< the correlation between scales N and M = V(N)V(M)cosA(N,M).[63] In this example we may assume that the length of the vectors are each equal to 1 so that the formula becomes R(N,M) = cosA(N,M) i.e. the correlation between any two scales equals the cosine of the angle between them. Figure 2 shows the intercorrelation between the four scales in this example.[64]

Figure 2 Vectorial Representation of Correlation Coefficients in Table 1



One sees from Table 1 that the correlation between scales 2 and 4 is .00. In Figure 2 the angle between the two corresponding vectors is 37+16+37 or 90 degrees which has a cosine of .00 thus accurately representing the correlation. Similarly, Figure 2 can be shown to completely represent the correlations in Table 1. The correlations between these four scales are adequately represented by a two dimensional figure or plane. Since it is known from plane geometry that any two intersecting lines determine a plane, we may express all four of these vectors in terms of any two of them. Choosing for convenience to run reference axes X and Y along the vector representing scales 2 and 4 respectively we may now, using the process of vector resolution, express each vector in terms of the two variables X and Y as follows:

$$V(1) = .8X + .6Y$$
$$V(2) = 1.0X + .0Y$$
$$V(3) = .6X + .8Y$$
$$V(4) = .0X + 1.0Y$$

We have thus performed the equivalent of a factor analysis on the four scales. Given their matrix of intercorrelations we have seen that it could be completely represented by a two dimensional figure. We then chose arbitraily two othogonal reference axes or factors and have expressed all four vectors interms of these two factors. Table 3 gives the results of this "factor analysis" in the conventional matrix form.

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Table 3 Factor Matrix

SCALE	FACTOR X	FACTOR Y	2 H
1	.8	.6	1.0
2	1.0	.0	1.0
3	.6	.8	1.0
4	.0	1.0	1.0
LATENT ROOTS	2.0	2 0	4.0

The numbers in the columns labeled after factor X and Y are called factor loadings and represent the correlations of the particular scales with factors X and Y respectively. For example, scale 2 has a 1.0 correlation with factor X and a .0 correlation with factor Y. Thus we may say that scale 2 is a perfect measureof factor X and does not measure factor Y. We can see that this is true by noting in Figure 2 that we ran axes X, the reference axis corresponding to factor X,

along the vector representing scale 2 so the angle between the axis in the scale is 0 degrees and the correlation between the two is then cosine 0 which equals 1. The column of the factor matrix labled "H^2" is called the communality, and is equal to the sum of the squared factor loadings in each row and is interpreted as that portion of the variance of each scale which is correlated with the other scales or the amount of variance explained by the factors. In this case all of the variance of each scale is "common variance" or "that portion of the reliabe[67] variance which correlates with other scales." However, in the more general case the total variance of a scale is divided into three general types - common, specific, and error variance. The common and specific variance together are the reliable variance with the specific variance defined as that portion of the reliable variance which does not correlate with any other scale. The error variance, assumed to be uncorrelated with the relaible variance, is the chance variance due to error of sampling, measurement, unstandardized conditions of testing, physiological and other changes within the individual which may contribute to unreliability. Thus in the more general case H^2 for each scale is usually less than 1, since 1.0 represents the standard form of the total amount of variance of each whole.

The latent root of each factor is the sum of the squares of the factor loadings down each column and represents the amount of common variance in all of the scales explained by that particular factor. In Table 3 we see that each factor explains 2.0 or 50% of the total common variance of 4.0 obtained by summing either the latent roots or H^2 s. We

may say that the larger the latent root of a factor, the greater the percentage of the common variance it explains and 2. the larger the sum of the communalities (H^2) the greater the percentage of total variance is common variance and thus explained by the extracted factors. The latent root of a factor becomes a measure of its relative importance compared to other factors in explaining the common variance. In fact, the arbitrary decision of when to. Similarly, the sum of the communalities measures the relative importance of all the factors in explaining the total variance.

To recapitulate, we have started with a matrix of intercorrelations among four scales and made the assumption that this matrix had common factors running through it. We represented the matrix geometrically and found it expressable as a plane definable by two axes or factors that we arbitrarily chose to run through two independent scales thus defining two orthogonal factors. We then were able to calculate a factor matrix (Table 3) in which the correlations of each scale with each factor became a factor loading and our assumption of the tripartite composition of the variance of each scale lead to measure of the relative importance of the factors.

Although numbers of factors (which equal the dimensionality of the semantic space derived from the scales) is directly derived from the dimensionality of the space needed to represent the correlation matrix, an arbitrary decision to stop extracting factors is often made when the latent root of a factor indicates that it accounts for less than 10% of the common variance. Other arbitrary decisions include

the choice of orthogonal rather than oblique axes and specification

of the orientation of axes once this number has been determined. In fact, an infinite number of choices are available for each of these criteria. Let us assume that we have chosen to work with orthogonal axes because the independence of the factors they define satisfies our criteria for an intuitively comprehensible picture of the entire factor structure. Furthermore, we have seen how orthogonal axes can describe a semantic space so that the latter becomes a visible model of the meaning matrix as defined by Binswanger. Having chosen orthogonal axes we still see that an infinite number of alternative orientations of the axes i.e. rotations, are possible. For example in Figure 2 let us rotate axis X and Y each 37 degrees clockwise thus preserving their perpendicularity. Axis Y, defining factor Y now runs through the vector of scale 3 so that the correlation of scale 3 with factor Y is now 1.0 rather than .8 as was indicated in Table 3 Similarly the vector of scale 3 is now orthogonal to axis X so that scale 3 now has 0 correlation with factor X rather than .6 as is seen in Table 3. The point is that in describing this matrix of intercorrelations an infinite number of rotations is possible, each producing a unique factor matrix as that of Table 3. As Harmon says, "systems of orthogonal or uncorrelated, factors may be chosen, consistent with the observed correlations, in an infinity of ways."[71]

The beauty of this apparently catastrophic indeterminacy is explicit recognition of the fact that in viewing any object or person, man may (and perhaps ideally should) adopt an infinite number of perspectives as determined by the position of his frame of reference. A single perspective is really a reductionistic interpretation in that by definition it must exclude parts of the phenomenon being observed. Factor analyses, in viewing a correlationmatrix from many perspectives certainly

approximate phenomenological understanding in that "the phenomenon (matrix) is left well scrutinized but intact." (P.7)

However, one is still faced with the problem of comparing factor structures derived from two individuals or two groups. In so doing one must adopt a perspective or a way of placing one's frame of reference. The question that arises is similar to that of the proverbial blind man examining the elephant by first feeling its trunk and then one of its legs - concluding that he had actually examined two separate objects, a snake and a tree respectively. Although there is no simple satisfactory resolution of this dilemma there are at least two alternatives. One may repeatedly re-analyze the two correlation matrices using rotations designed empirically to make the factor matrices appear as similar as possible , or one may define mathematical conditions which may be applied to different matrices to produce factor structure that at least satisfy some similar criteria. The disadvantage of the former is that the degree of similarity or correspondence you are able to achieve between the two factor matrices may reflect only <u>your</u> ability to visualize the factor structure and not the true degree of similarity between them. The latter method eliminates the subjectivity but leaves you with the burden of proof that the mathematical criteria selected are relevant to the comparability of the matrices. The latter method has, however, has been attempted with some success and I will now indicate how a particular method of factor analysis has been combined with criteria for rotation to produce factor matrices that are in some sense comparable.

The Principal Components or Principal Factor solution results in a orthogonal set of common factors that is a

mathematically unique representation of any given table of intercorrelations. Furthermore, each successive factor accounts for a maximum percentage of the total residual communality.[72] This means that the analysis is begun with a factor F(1) whose contribution to the communalities of the scales has a great total as possible. Then the first factor residual correlations - representing the matrix of scale intercorrelations after the extraction of those accounted for by the first factor, is obtained. A second factor F(2), orthogonal to F(1), with a maximum contribution to the remaining communality is next found. This process is continued until the total communality is analyzed[73] or one decides that additional factors are explaining a negligible percentage of the communality. Thus this method is parsimonious in accounting for a maximum amount of the communality with a minimum number of orthogonal factors. This implies that two correlation matrices analyzed by this method may be compared in terms of the minimum number of orthogonal factors required to account for their structure. Remembering that each factor represents a dimension in the semantic space e.g. in our example we had two factors and thus a two dimensional semantic space, we see that the greater the number of factors the more complex the semantic space.

In other words two individuals or groups may complete semantic differential questionnaires using the same concepts and one group may be found on factor analysis to have a higher dimensional semantic space than the other. This would imply that the former group showed a more complex semantic space. Accepting the analogy of the semantic space to Binswanger's Existential A Priori, we would have to conclude that the sample

of the Existential A priori topped by the particular semantic differential revealed greater complexity of that of the former group or compared to the latter group. One must note that in this example only a sample of the structure of the Existential A Priori is obtained since a selected number of scales and concepts used in the semantic differential.

Now that the necessary number of orthogonal axes or factors has been defined we may determine the final orientation of the axes by performing a varimax rotation. This maneuver is designed to "simplify" the columns of the factor matrix[74] by maximizing the number of high and low loadings in each one. The "simplicity" of a factor is operationally defined as the variance of its squared loadings. When this variance is maximized it means that the loadings of the scales on the factor differ most greatly from the mean loading.[75] In other words the loadings of the individual scale of the factor are either algebraically high (approaching plus or minus 1) or low (approaching 0). We can now define the criteria of maximum simplicity of a complete factor matrix as "the maximation of the sum of these simplicities of the (equally weighted) individual factors." As we have previously stated,[76] a loading is really a measure of correlation between a scale and a factor. A factor is meaningfully interpreted by those scales that have the algebraically highest correlations with it or loadings on it. Thus a rotation which results in scales with very high or very low loadings makes interpretation of the factor simple since the former define it and the latter are essentially independent or uncorrelated with it.

While the aforementioned property of the varimax rotation is certainly desirable, Harman states that " the rationale for

the varimax criterion must be more fundamental if it is truly to provide a mathematical basis for the rotation problem."[77]

A successful rotational method should ideally, according to Harman, define factors such that the factorial description of a scale remains invariant when the scale is moved from one battery (particular semantic differential) to another which involves the same common factors. Harman states that, " the varimax method tends to have this[78] invariance property; so that it permits the drawing of inferences about the factors in an (indefinite) domain of psychological content from a varimax solution based on a sample of N tests (scales)."[79] This means that compared to those obtained through other methods of rotation "varimax factors obtained in a sample will have a greater likelihood of portraying the universe varimax factors." This property has important implications in the previously proposed example of comparison between two individuals or groups. Firstly we see that for any group given a semantic differential using a limited number of scales the likelihood is that the derived varimax factors correspond to those which would come out of a semantic differential using all the possible scales appropriate for that group. This does not mean that a sample of scales will necessarily yield <u>all</u> the factors that would come from the universe of scales but does indicate that the varimax factors derived from the use of a sample of scales would probably be represented <u>among</u> those derived from the use of comprehensive semantic differential. In other word varimax factors are likely to be stable descriptions of the structure of the Existential A Priori of the individual or group rather than a non-reproducible artefacts of a statistician's arbitrary choice of rotational procedures. Thus the use of the varimax rotation allows comparis on of the

individual factors comprising the Existential-A-Priori of different groups or individuals with the confidence that we are probably not (due to an arbitrary choice of perspective) comparing the trunk of an elephant with its leg and concluding that we are dealing with a snake and a tree.

We have now seen that the semantic differential, factor analysis, and the varimax rotation have provided us with tools that extend the identification of the meaning matrix of the semantic differential with Binswanger's Existential-A-Priori. These tools have also given us several bases of comparison among several individuals or groups whose Existential-A-Priori we can describe. In the next section we shall express the existential-phenomenological understanding of the psychotic experience in terms of hypotheses testable using the aforementioned methods.

Final Formation of Hypothesis

Let us assume that we have two groups of patients differing significantly only in one group consisting of neurotic individuals and in the other psychotic people. Questions immediately arise regarding the size of the group, ways of selection of patients, etc. but these will be covered in succeeding sections. Now we are concerned with what the existential-phenomenological school would predict regarding the outcome of a semantic differential study of these two groups. These predictions will serve as hypotheses for testing the validity of this school's particular view of the psychotic subjective experience and will also provide a partial outline for analysis of the two groups.

Now let us give each group a semantic differential using as scales those bipolar sets of adjectives that the existential-

phenomenological school use to characterize psychotic subjective experience . These aresummarized at the end of Chapter One in the final part of the section entitled "Psychotic-Being In-The- World " (P.17) Let us have each patient describe himself, his mother, his father, and his psychiatrist according to these scales and let us re-administer the entire semantic differential in one week. We shall also have each patient's psychiatrist simultaneously fill out both a semantic differential (twice) describing his mother, his father, himself, and his patient and a short mental status form on his patient. In succeeding sections we will seethat repetition of the semantic differential will give us a measure of reliability and the independent judgement of each patient's mental status by the psychiatrist will yield a type of validity. However, now we must see how the experiment, as roughly outlined above, gives us the opportunity to test some of the existential-phenomenological assertations about the psychotic experience.

Our first step is to factor analyze and apply the varimax rotation to the data from each group. In so doing we are deriving factors, each of which may be thought of as being a dimension of the collective existential-a-priori of that particular group. The groups were so chosen that they are similar with respect to a number of variables that could possibly account for differences in the results. We have thus attempted to maximize the likelihood of distinctions between them being explainable by the psychotic-neurotic dichotomy.

As we have seen in the section entitled "Psychotic Being-In-The-World (P.12), the psychotic world-design or Existential-A-Priori is simplified or constricted. In fact in the limit

it is seen as unidimensional We would then predict that the number of factors which equals the dimensionality of the semantic space or Existential-A-Priori and is a measure of the complexity of the latter would be fewer in the psychotic group than in the neurotic. This is a looser hypothesis than that of a unidimensional Existential-A-Priori but one must recognize that a world-design may be psychotic in various degrees at different times and that someone who exhibits the extreme of unidimensionality may be unable to make the discriminations necessary to take a semantic differential test. The latter possibility would bias our collection of data towards those patients with a less constricted world design, thus tending to obscure the hypothesized difference between the two groups and making the looser criterion more likely to reflect a real difference.

As we have seen, the psychotic experiences anxiety over imminent loss of the qualities of freedom, activity, and intentionality which define his existence as that of a person as opposed to an object. (P. 12) We would then predict that the psychotic would yield a factor in which the scale "anxious-calm" is highly associated with such correlates of basic existence as a person as "thing-person", "unreal-real" and "destined-free". The very magnitude of the threat to basic existence should lead to the scale of "dreading-hopeful" being strongly associated with the factor. We may predict that anxiety as specified by the scale "anxious-calm" would not be primarily associated with such a factor for the neurotics since, for them anxiety does not imply a threat to basic existence.

Our fourth prediction or hypothesis stems from the availability of the latent roots or "sums of squares" of each

column as a measure of the relative importance of each factor in explaining the communality (P. 28). We may assert that if a "basic existence" factor as characterized above emerges from both groups, it will be relatively more important in the psychotic group. This should reflect the psychotic's greater and more immediate concern with questions of basic exitence in judging all people. So that while a basic existence factor may be seen in both groups, in the neurotic group it should 1. not be primarily associated with the "anxious-calm" scale and 2. not be as relatively important.

A fifth hypothesis is derived from the quality of decision-making that Binswanger states we should expect as a consequence of the constricted world design and threatened existence of the psychotic. We remember that he spoke of "the splitting off of experiential consistency into alternatives, into a rigid either-or." (P. 13) Consequent inability to withstand the tension between alternatives leads to extreme choices with attempts to submerge or hide one side of the alternative or renunciation of the faculty of choice. Now each time a patient marks a scale of the semantic differential he is making a choice between alternatives using a seven point scale. Chòices corresponding to numbers 1 and 7 represent the exptremes of the scale or the complete rejection of the unchosen side. Position 4 provides a way of avoiding the decision since it is equidistant between the two extremes and is defined as implying either 1. the irrelevance of both sides of the scale to the person being judged or 2. an exact balance of the person being judged as the opposing qualities represented by the extremes. One might thus expect a psychotic patient

relative to a neurotic to mark an excess of positions 1, 4 and 7 as opposed to 2, 3, 5 and 6. If this prediction were verified it would be consistent with the expected quality of psychotic decision-making. However, the ambiguity of position 4 precludes further interpretation.

The sixth hypothesis consists of a number of questions that may be asked about the relationships between the patients' descriptions of themselves and the psychiatrists' descriptions of the patients. Due to the sizes of the groups and some practical difficulty in collecting the data from the psychiatrists, these questions may not be answered in this particular study. However, they would be legitimate and valuable considerations in subsequent work of similar design and thus should be outlined. We note that for each administration of the test each patient describes himself and each psychiatrist describes his patient according to each of the scales on the differential. Furthermore, once the factor analyses have been completed it is often possible to linearly combine scales higher loaded on each factor to produce composite "factor scale scores" that have the virtue of being relatively independent reflections of single factors. The following questions may be asked using the individual scales and the factor scale scores:

1. Do the psychotics and neurotics describe themselves differently?

2. For each group (neurotics and psychotics), do the psychiatrists' descriptions of the patients differ significantly from the patients' self-descriptions?

3. Are the differences between the psychiatrists' descriptions of the patients and the patients' self descriptions significantly greater for the psychotic group than for the neurotics?

The difficulty with even asking these questions is that in answering them you must deal directly with patients' self descriptions - data that are notoriously subject to defensive distortion. This situation is markedly different from that encountered in attempting to test the first five hypotheses since all of the latter deal with the underlying structure of the patient's organization of experience. Although this structure is his world design or existential-a-priori, he is neither aware of it as a whole nor aware that people can deduce so much of it from an apparently disconnected series of reponses or the semantic differential. His defences are thus not mobilized to attempt to conceal it.

Now that the hypotheses of the study have been formulated, we move on to the actual procedure.

CHAPTER 3 - PROCEDURE

The general procedure, as outlined in the previous section, consisted of the selection of psychotic and neurotic groups of patients and administration of a semantic differential questionnaire simultaneously to each patient and his psychiatrist with retesting after an interval of one week. In this section we shall cover the specific problems encountered and the methods used in carrying out this experiment.

Formulating The Questionnaire

The first part of the questionnaire filled out by each psychiatric resident before the initial administration consists of basic identifying data about himself and his patient (see Appendix A). It should be noted that similar data were collected about the resident and the patient with the original objective of using the residents as a "normal" control group. However, as will be discovered in the "Results" section, (P.62) differences between the residents and the patient groups invali date this comparison.

Information about the socio-economic class and diagnosis was requested in this questionnaire. The former included a rough estimate of the patient's socio-economic class by the resident. This was felt to be necessary since Hollingshead and Redlich have found "an inverse relationship between class status and the incidence of psychotic disorders." Thus one must make sure that the psychotic group of patients is not significantly different in socio-economic class from the neurotic so that the results reflect primarily the neurotic-psychotic dichotomy. Items four through eight on the questionnaire reflect specific measure of socio-economic status. These were found not to be readily available from either charts or the knowledge of the residents. It was thought that asking the patients directly for the answer to

these questions would both unduly extend the length of the administration and increase any negative feelings about the test involving an intrusion of their privacy. The risk of alienating the patients and losing their co-operation was not considered worth the gain in information so that these questions usually remained unanswered.

Items three and ten, the amount of education completed by the patient and the resident's estimate of the patient's intelligence, were considered quite important since the semantic differential is basically a verbal test. Significant difference between the groups in verbal skills attained or intelligence must be avoided. Since age (item 2) is also a factor in estimation of verbal skills, it was obtained.

Additional information obtained included : admission diagnosis, and diagnosis at the time of administration of the test. This obviously reflects the classification of neurotic versus psychotic that determines the group in which the patient is placed.

The second part of the questionnaire is filled out by the resident at each administration of the test. It consists of a twenty-one item check list mental status form (see Appendix B) sometimes used in the Connecticut Mental Health Center. Also considered to be part of the information about the mental status of the patient are the two scales: "psychotic - non-psychotic" and "non-neurotic - neurotic". These scales are added to the part of the semantic differential questionnaire in which the resident describes his patient. They are deliberately separate so that the resident may independently indicate the co-existence of neurotic and psychotic features in his patient and are included for each administration so that changes may be noted. Furthermore, these scales may be statistically analyzed so that a measure of whether

the psychotic and neurotic groups are actually rated as significantly more psychotic or neurotic respectively. This provides a check of the validity of the original assignments of patients to groups on the basis of diagnosis. These scales also permit one to see if the original assignment is as valid for the second administration as for the first, although it is highly unlikely that either group would change sufficiently during the course of the one week interval between administrations to invalidate the distinction between them.

One more measure, obtainable by testing the correlation between these scales and the items on the mental status form, is an indication of the significance of the various items of the latter to the resident's use of the terms "neurotic" and "psychotic". In other words by rating the mental status of the same patient using both the mental status form and the two scales the resident is implicitly defining the terms "neurotic" and "psychotic" according to their correlation with the twenty-one items of the form. However, the purpose of this study is not to seek such an objective definition of the labels "neurotic" and "psychotic" but to see how patients who have been so branded define their worlds. So this particular measure will not be derived.

The third part of the questionnaire, the semantic differential, was constructed using the thirty-five scales that were found at the end of the section of Chapter 1 entitled "Psychotic-Being-In The-World" (P.17) to summarize the existential-phenomenological understanding of psychotic subjective experience. This set of bipolar adjectives is summarized in Appendix C. The pairs were arbitrarily numbered : one, through thirty-five as shown in the Appendix. Using the table of random units in the C.R.C. Handbook of Mathematical Tables four separate lists of the numbers 1 through 35 in random order were chosen by the procedure recommended in the

in the book.[81] These lists were then altered so that randomly chosen items in the first and second ones had the letter R written after them depending upon whether certain numbers in the table of random units were odd or even. List four was then made the reverse of list one in that 1. all those numbers following by an R in the latter were followed by one in the former and 2. all those numbers not followed by an R in the latter were followed by a one in the former. For example, if the number 10 was followed by an R in list one, it was not followed by an R in list four. The number 10 was still randomly placed in both lists but it was not so arranged that in list form it was not followed by an R. List three was similarly made the reverse of list two. Then for each list the number in a randomly chosen place in the first six positions was repeated with its R suffix reversed in a randomly chosen place in the last six positions. Finally, each bipolar pair of adjectives was written wherever its number (Appendix C) occurred in each list with the order of the pair reversed from that in Appendix C. if the number was followed by an R. The result was four lists of the thirty five adjective pairs in different random order with the following properties:

1. each member of every bipolar pair was written first in two of the lists and last in the other two
2. one pair occuring in the first six places of each list was repeated once in reverse order in the last six

These lists were then typed in semantic differential style with seven alternative positions for check marks between the left and right members of each pair of adjectives and space at the top of each page for naming the concept or person being described. The lists, now called Forms 1 through 4, are shown consecutively in Appendix D. It should be noted that each Form consists of approximately one and one-third pages of (36) adjective pairs.

It was decided that during an administration of the test, the patient would describe four people: MY MOTHER, MY FATHER, MYSELF, AND MY PSYCHIATRIST, and his resident would describe: MY MOTHER, MY FATHER, MYSELF, and MY PATIENT. Each person is described using one Form containing the entire list of thirty-five adjectives plus one duplication. Thus the order of the Forms for each administration and the order of the people described or the pairing of the Forms with people must be specified. It was decided to use each Form once in each administration and to make sure that for each group of patients (neurotic and psychotic) the following criteria are fulfilled: 1. each group shall describe each of the four people an equal numbers of time on each of the four Forms. 2. each group shall describe each of the four people first an equal number of times with the other three described in random order afterward. 3. each patient-resident pair shall always take the same semantic differential tests with the exception of the patient describing the resident and vica-versa 4. at the end of the experiment each group of patients shall have taken exactly the same set of semantic differential tests.

The first two of the aforementioned objectives were attained by pairing the Forms and people to be described in four standard administrations as shown in Appendix E. We see that over the course of the four, each person to be described is associated once with each Form and occurs once as the first one described. Thus provided that each group of patients takes an equal number of complete sets of the four standard administrative criteria are satisfied. Thus we require the number of patients in each group to be equal and a multiple of four.

Although we have specified that each group receive an equal number of complete sets of the four standard administrations we

recall that each patient (and his resident) will actually be receiving only two of the four administrations since each one take the test twice with an INTERTEST interval of one week. One must then randomly choose the particular set of two administraions received by each patient (an his resident) within the restriction that each group use the appropriate number of complete sets of them. This was done and is shown in Appendix F for a group of twelve patient-resident pairs.

In summary the semantic differential was constructed so that the order of the adjective pairs is random and each pair is arranged to equalize the number of times each number occurs first. One pair of adjectives occurring in each Form of the test is duplicated in reversed order near the end. These pairs will later enable us to calculate immediate test-retest reliability correlations. Each person is asked to describe each of four people using a set of all adjectives plus the one duplicate. One should note that a total of 4 x 36 or 144 separate judgements are required at each testing session. However, Osgood stated that 15 minutes is a conservative estimate of the time required to complete a semantic differential of this size.[82] The test has been designed so that each patient-resident pair and each group (psychotic and neurotic) will have taken the same number of each different randomized form of the semantic differential.

A standard set of instructions seen in Appendix G. and taken from Osgood is included in every questionnaire immediately preceding the semantic differential. These instructions are reviewed with each patient before every administration.[83] They include the definitions of the meaning of each of the seven alternatives in relation to a sample pair of adjectives. The task is specified as describing the people on the basis of "how you feel" about them so that the patient knows that he is not expected to

produce a precise objective characterization of someone, as a parent, who he might not have seen in many years.

The final part of the questionnaire to be mentioned consists, in the case of the resident, of a resident's introduction to the study (AppendixH.) and in that of the patient, a patient's introduction (Appendix I.). These introductions will be discussed in the next section, but are mentioned here so that we may summarize the composition and order of the resident's and patient's questionnaires. The resident's initial questionnaire consists of the following five parts: 1. Resident's introduction 2. Preliminary information sheet 3. Mental status form 4 Semantic differential instructions and 5. Semantic differential test. The first two items are omitted from the retest questionnaire. In contrast, the patient is initially presented with three items: 1. Patient's introduction 2. Semantic differential instructions and 3. Semantic differential test. The patient's last questionnaire consists only of the semantic diffeeential instructions and the test itself. Each questionnaire is also assigned a code number written on the upper right hand corner of the first page. This allows me to identify the particular person filling out the questionnaire, whether he was in the neurotic or psychotic groups or the resident of the particular patient in one of these groups, and whether the test was an initial or final administration.

The step after formulating the general procedure and the questionnaire consisted of seeing the ward chiefs and residents.

Contacting The Staff And Selecting The Patients

Ward chiefs on the following units of the Department of Psychiatry were approached : 1.Yale Psychiatric Institute 2. Tompkins 1 3. Connecticut Mental Health Center- third floor 4. Connecticut

Mental Health Center-fourth floor 5. Connecticut Mental Health Center-fifth floor. Their support was enlisted when the purpose of the project was fully explained and it was clear that there would be minimal time demands made i.e. under one-half hour for each of the two sessions per patient or resident, and no interruptions of ward routine or doctor-patient relationships. The ward chiefs introduced me at staff meetings, indicating that my project had their support and that the residents were thus expected to participate and permit me to approach their patients. During these meetings I briefly explained the project to the assembled staff and asked the residents to meet me afterward and give me the names of patients who they considered relatively verbal and as clearly neurotic or psychotic as possible with a minimum of borderline features. From the suggested sample of suitable patients I attempted to construct equal sized neurotic and psychotic groups that did not differ significantly on the following identification data obtained from the previously discussed Prelininary Information sheet (seeAppendix A). Specifically, these data include age, sex, estimated socio-economic class, estimated intelligence, and education completed. Groups of twelve were obtained. Although the following was clearly indicated in the Resident's Introduction (Appendix H.) I tried to personally state to each resident that I realized that this was an imposition on their time and was anxiousto minimize the inconvenience for them. The Resident's Introduction was made sufficiently comprehensive that I did not have to explain the questionnaire to them but I tried to do so in as many cases as possible - sometimes running with them to their next meeting while talking.

On wards where I was able to speak personally with most of the residents I had the best rate of return of my questionnaires. My main difficulty in this respect occurred on the ward with the most residents that was also orientated towards intensive in-

dividual psychotherapy so that my chances of contacting the resident on the ward were small. A more general difficulty than rate of return was time. I did not administer the resident's sessions since their schedules during the day were always full and sometimes erratic. After having explained the questionnaire initially in as many cases as possible, I would give it to the resident or leave it in his mailbox (with his knowledge) after I saw the patient. An exhortation to complete it as soon as possible and a warning to expect similar tests in a week was included in the Resident's Introduction. In practice, a lag of three days between a resident's receipt of a questionnaire and his completion of it was not unusual, so that the mental status evaluated was rarely that of the patient when his questionnaire was administered. However, the original classification of the patient by the resident into the neurotic or psychotic group was always substantiated by the resident's mental status forms for both administrations no matter when the forms were completed. This may be taken as strong presumptive evidence that the classification was valid in the interim when the patient's questionnaires were being administered.

Contacting The Patient And Administering The Test

All of the residents had the option of informing their patients before I went to see them and most of them did so. However, at Yale Psychiatric Institute, the only ward where I was introduced at a patient-staff meeting, the residents felt that further introductions were not necessary. At this meeting I was presented as a fourth-year medical student doing research who would contact some of them individually about participating. I was able visit on the ward at any time and speak to the patients whose names I had originally obtained from the residents.

Although most of the patients had some idea of my identity from either the YPI patient-staff meeting or comments from their residents, I always introducedmyself as Sandy Genser - medical student. I then followed the outline of the Patient's Introduction (Appendix I.), covering the material in the first three paragraphs and then pausing - awaiting a response. I should emphasize that the Introduction was only an outline and was not read to or by the patient, even though it was included as part of his questionnaire. All of the patients who did participate in the study indicated their willingness to do so before I had to resort to the "hard sell" of the last two paragraphs.

One patient, a potential member of the psychotic group on YPI, refused to participate. He indicated this strongly by the time I had finished stating the objectives of the study, but also expressed a desire to learn more about the purpose and design of the research. Hoping to either to entice him into participation or learn more about the reasons behind his refusal I spoke with him for about an hour. Although he remained adamant in his refusal, he did state, in effect, that he felt unable to attain the level of organization generally demanded by tests and was thus made sufficiently uncomfortable by them that he was unwilling to try.. It would be interesting to speculate that this degree of disorganization implies an Existential-A-Priori that approaches the limit of unidimensionality as previously discussed in the section entitled Formulation of Hypothesis (P.27) However, such speculation is obviously untestable.

In any case, the refusal of only potential member of the study groups to participate, means that this project does not involve additional non-random determination of the composition of the groups by criteria that can not be specified. In other words the

refusal of a significant number of the patients selected by the residents on the basis of my definition of "suitable" patients would make the final sample non-representative of the population of "suitable" patients. This problem has not occurred with the study. A total of 25 patients were contacted with each final group consisting of 12.

Once a patient agreed to participate, I asked him if the present time was suitable for the first session. All the patients agreed that it was, so I took each one to a quiet office or room and went over the instructions for filling out the semantic differential (Appendix G.)In essence I read the instructions aloud with the patient, reviewing any section that he seemed to have difficulty understanding. In the second sessions I always started to review the instructions with the patient, stopping only if he clearly indicated that he felt this was unnecessary.

The last sentence in the instructions states that the patient should ask me for help if there are any words that he can't read. By virtue of a mechanical difficulty with the stencil, the word "normal" of the scale "normal-abnormal" on Form II was sufficiently blured on virtually all questionnaires as to be unintelligibile. It could be easily inferred because "abnormal" was readable, the opposite sides of the scales were known to be antohyms and a patient is likely to have encountered the same scale before on one of the other Forms. However, the illegibility was noted by questions from over half of the patients in each group only during their first administration. Although it can certainly be argued that multiple meanings can be associated with the fact that the question was asked, it certainly implies at least a minimum level of attention being paid to the questionnaire by the patients.

This then may be considered a rough measure of co-operation on the part of the patients. However, the fact that the patients were willing to take the test with a minimum of "selling" is certainly a much better reflection of the degree of co-operation to expect.

Once the instructions were reviewed, the patient was given a pencil and allowed to start taking the test. I remained in the room while he completed the semantic differential but occupied myself with some written work of my own--keeping the patient in my peripheral vision but not staring at him. No time limit was set for the test. However, it was observed that the patients averaged about fifteen minutes for the first session (running from less than ten to over twenty-five) and from ten to fifteen for the second. The total length of the first session with a patient starting from my introduction ranged from less than one half hour to over forty-five minutes with an estimated average being about half an hour. The second session was usually much shorter-rarely being over twenty minutes. My conjecture is that the sessions with the psychotic group were generally longer than those with the neurotic group, but this is one hypothesis that would have to be verified in another study.

After the patient completed his questionnaire, I would take it, thank him, and in the first session remind him that I would be coming one more time in a week. Lastly, it should be noted that aside from the use of a relatively standard approach to all patients, both groups were tested concurrently over a six week period so that my inexperience in administering the test was equally distributed and all efforts were made to treat both groups identically.

Analysis Of The Data

The data analysis was carried out in four parts using the Data-Text System on the IBM 7090-94 DCS at the Yale Computer Center.[84] The first part, analysis of the identification and mental status data, required the punching of one IBM card per patient containing the following information coded according to the indicated discrete categories:

1. group classification (psychotic vs. neurotic)
2. age (10-25/ 25-40/ 40-55/ above 55)
3. estimated intelligence (superior/bright/average)
4. education completed (grade school/high school/college/ graduate school)
5. estimated socio-economic class (upper/middle/lower)
6. sex (male/female)
7. rating on psychotic-nonpsychotic scale for first administration
8. rating on psychotic-nonpsychotic scale for second administration
9. rating on non-neurotic-neurotic scale for first administration
10. rating on non-neurotic-neurotic scale for second administration
11. rating on total sickness scale (item twenty-one of mental statis sheet) for first administration
12. rating on total sickness scale for second administration
13. weeks in hospital (0-10/ 10-20/ 20-30/ over 30)

The appropriate Chi-square tests were then performed to determine the significance of differences between the neurotic and psychotic groups on all the other variables. The significance of differences between the first and second administration in psychosis, neurosis and total sickness ratings was also tested

using Chi-squares.

The second part of the data analysis, the factor analyses, required the punching of four LBM cards per completed questionnaire - each having the following format:

Identification Fields

1. group or person filling out the questionnaire (neurotic patient/ psychotic patient/ resident)

2. number assigned to person (1-6 = male neurotics/ 7-12 = female neurotics/ 13-18 = male psychotics / 19-24 = female psychotics/ 25-48 = residents to patients 1-24 in order)

3. administration (first/second)

4. card number (cards numbered consecutively with 1-4 = the first questionnaire of the first patient, 4-8 = the second questionnaire, etc. so that the remaineder of card number divided by four always gave the particular person being described with 1-4 equaling respectively mother, father, self, and patient (by resident) or psychiatrist (by the patient)

5. Form of the semantic differential according to which a particular person was being described (1/2/3/4)

Data Fields

1. The chosen ratings on the thirty-six scales used to describe the particular person with the numbers 1-7 corresponding to the alternatives on each scale running from the left to the right side of the paper.

Thus each IBM card corresponded to a particular patient or resident describing one person on the thirty-six scales (thirty-five different and one duplicate) and four cards were required to represent each completed questionnaire. The next step was to recode the data fields on each card into standars form so that corresponding fields always represented the rating on a particular scale in a certain order. We must remember that four different random Forms had been used in each questionnaire so that each one had to be converted

to a standard form to satisfy the aforementioned criteria . The standard form arbitrarily chosen is given in Appendix C with the number assigned to the scales corresponding to the consecutive placement of the ratings on each scale in the data field of the rearranged IBM cards. The recoding was accomplished so that the number seven and one corresponded respectively to extreme ratings toward the first and the second member of each adjective pair as named in Appendix C. The only exception is scale thirty-five, indicated as "alone-crowded" in Appendix C., which was recoded as "crowded-alone" in the standard form. Also, a thirty-sixth scale in the standard form corresponded to the duplicate in each of the other Forms and was recoded with the adjective pair in the same order as in its first occurence in the standard form.

It should be noted that the duplicates in Forms one through four are the respective scales: "alone-crowded", "thing-person", "incomplete-complete" and disorderly-orderly". So for example suppose that a patient has used Form 2 (Appendix D) to describe someone first in position 6 i.e. one space away from the "person" side of the scale and then position 1 i.e. at the "person" end of the duplicate scale. The original un-rearranged card would have the "six" in data field "four" and the "one" in field "thirty-five"--corresponding to the position of the scale in Form 2. The recoded card would place the "six" in field twenty-four since a "one" in "person-thing" equals a seven in "thing-person". Recoding would change the "one" into a "seven", placing this in position thirty-six. Thus the ratings themselves are unchanged but their order and direction are standardized.

After the recoding was accomplished by computer several of the questionnaires were recoded by "hand" to test the accuracy of

the program. The result of the latter method was found to correspond exactly to that of the program - confirming the accuracy of the recoding.

The next step is separate calculations of the previously discussed Principal Components Factor Analysis and Varimax rotations for the neurotic and psychotic groups according to the procedure outlined in the Data- Text Manual[85] These computations were performed on the thirty-five scales of the rearranged data. Since each had used the complete set of scales in describing each of the four people for two administrations, there were eight data cards or eight complete sets scales used per patient. With twelve patients per group, each used a total of twelve times eight or ninety-six complete sets of scales and these were analyzed together. The validity of combining sets of scales used not only by the same individual but by the person at different times (first and second administrations) will be discussed in detail in the next chapter. It is sufficient to say now that assuming there is intra-individual consistency over time in factor structure, such a combination will increase the extent to which the group factor structure is a valid composite of that of the twelve individuals. This is because the repeated sampling of the presumably consistent structure of each individual should give us a picture less affected by random error just as repeated observations of an object enable us to describe it more accurately. Also, the more accurate a picture we have of the twelve individuals the closer we come to a valid characterization of the universe of psychotic or neurotic patients but only to the extent that those twelve represent a valid sample of that universe. In effect, no matter how accurately we describe a sample, the generalizability of that description to theuniverse is limited to the size and representiveness

of the sample. In this case we shall attempt to describe each sample as accurately as possible but the results are limited by the irrevocable fact that there arereally only twelve people per group.

The third part of the analysis was the determination of how the two groups used the seven alternatives available on each scale. This was studied using the data before recoding so that each rating by each patient on a scale was characterized by numbers one through seven depending on whether it was respectively closer to the left or the right side of the scale. The four Forms had been constructed so that each adjective of the thirty-five scales (excluding the duplicate) occurred on the left and right sides of the scales an equal number of times. Thus any bias on the part of the patient towards a particular end of a certain scale should be symmetrically distributed over both sides of the semantic differential. For example, assume that a patient rated all the people described on "extremely hard" on the "hard-soft" scale, this decision would be characterized by a "1". However, the "soft-hard" arrangement of the scale occurs an equal number of times as "hard-soft" and the former the same decision is represented by a "7". Thus this patient's ratings on this scale would, in the data before recoding, be represented by an equal number of "1's" and "7's". If a patient tended to make equally extreme decisions but at the opposite end of the scale, he would produce exactly the same pattern. The total frequency distribution of the un-rearranged data thus reflects the tendency of a patient or group to use each of the seven alternative positions independently of the meanings of the two sides of the individual scales. One may thus obtain the frequency distribution the seven alternatives for each group and test the hypothesis that there is no difference between the

way the groups use all seven or each of the seven using Chi-square. This has been accomplished using the fact that the Chi-Squaresobtained by testing each of the alternatives for the two groups may be examined individually and also summed to get an overall measure of the significance of the group differences.[86]

If there is such an overall difference between the groups it may be accounted for by a position preference on the part of one or both groups for either the left (alternative 1,2, or 3) side of the test, the right side, (alternative 5, 6, or 7) or the middle (alternative 4). The hypothesis that there is no difference between the frequencies with which each group uses each side of the semantic differential has been tested using Chi-square and combining the appropriate frequencies even if each of the groups is found separately to use the left and right sides of the semantic differential equally they must still be tested together, using Chi-square, for a possible overall difference in position preference. It should be noted that the Chi-square obtained can not be summed this time to get the overall value. A separate calculation must be performed because the sum of the frequencies for the neurotic and psychotic are no longer equal. The frequency of alternative 4, which is different for each group, is not being counted. Thus the expected frequencies are no longer calculated or the basis of an equal total frequency per group and must be determined separately.

If no left-right position preference difference between the two groups emerges, a significant overall difference in the use of seven alternatives may exist solely on the basis of a preference difference for the middle position. Such a preference would be ambiguous to interpret since the middle position (4) not only represents a distinct physical place on the scale, but also a unique position

on the continuum of "extremes" of rating. In this study it would be impossible to differentiate which of the two qualities of position 4 was previously responsible for differences between the groups. This could be ascertained in another study — perhaps one using scales which the neutral point was defined as being away from the geographical center of the scale.

However, let us look at the "extremes" continuum . Each scale is defined so that the two ends (positions 1 and 7) are defined by the adverb extremely, the adjacent positions (2 and6) by quite the next ones (3 and 5) by slightly and the last (4) by equally . These adverbs may be considered respectively to represent decreasing degrees of extremeness or clarity of decision between the adjective defining the opposite sidesof the scale. One may then combine the frequencies of the aforementioned alternatives representing each degree and use Chi-square to determine the significance of differences on each degree. In this case we may sum the Chi-squares to get an overall measure between the groups because we have a group of four"two celled tables in which the expected frequencies are equal" as discussed by Guilford[87]

The last part of the data analysis is the computation of reliability coefficient for the neurotic, psychotic, and residents. Reliability is defined by Osgood as "the reproducability of scores under conditions of repeated measurement."[88] Guilford divides psychological tests into two classes: homogeneous and heterogeneous.[89] The former are defined as measuring one factor i.e. one ability or trait and the latter as being factually complex. Obviously the semantic differential used in this study was not designed to measure a single factor so it must be placed in the latter category. Guilford further states that "the only meaningful estimate of reliability for a heterogeneous test is of the retest variety."[90]

This is operationally defined on the self correlation of a test on repeated administrations and may be obtained in this study for each scale over two time intervals.

Remembering that a duplicate of one of the first six scales in each Form was contained among the last six, we may calculate test re-test correlation for those scalesover the time it takes for the patient to complete the intervening items. This shall be called immediate test-retest item reliability and had been calculated for each patient group and the residents. Even if these correlations should prove significant there may still be a great absolute score difference between the scales on the test and retest. In other words if the scale "crowded-alone" had high immediate test-retest correlation it may still be possible that each patient uses the "extremely crowded" rating on the test and the"extremely alone" rating on the retest. In this case it is possible to predict the second score from the first with a high degree of accuracy so that they may be considered reproducible but they are certainly quite different. One may, however, obtain the differences between test and retest and use a T-test to determine if these diffrences vary significantly from zero (if the distributions of scores on the scales are normal). This has been done for the immediate test retest scores of each patient group and the residents. One should note that the number of test-retest pairs of scores in this case is equal to the number of times each group uses each Form or a total of twenty-four such pairs per scale per group.

The one week test-retest item reliability correlations are obtainable by pairing each individual's initial rating of a person on a scale with the corresponding rating for the second administration. The correlations were calculated over people judged so that for each scale there were four test-retest pairs per patient . For example, a patient's initial judgements of "my father, "myself"

and "my psychiatrist" on the "good-bad" scale was paired with the four corresponding ratings in the second administration. Thus each of the thirty-five correlations corresponding to the scales was based on four such pairs per person or forty-eight groups.

This concludes the resume' of the data analysis and we now move to the presentation and discussion of results.

CHAPTER FOUR - RESULTS AND CONCLUSIONS

Comparability of Groups

Before looking at the results of the factor analyses we must first ascertain whether the twelve patients in each group differ significantly according to any criteria other than the neurotic-psychoticdimension. However, we must first be sure that the groups do differ on the neurotic-psychotic scale.

Looking first at the diagnosis of the patients as summarized in Appendix K. Table 15 we see that the "neurotic" group actually consists primarily of depressives and the "psychotic" group of schizophrenics. The predominance of these diagnoses is an artefact of the particular population of the impatient psychiatric wards at the time of conduction of the study. However, inpatients were chosen because it was felt that they were more likely to strongly exhibit the defining characteristics of their group. The imbalance is however, an important point because it limits the validity of the study as a comparision between neurotic and psychotics since we don't have a balanced sample of the clinical categories in both groups.

Thus the difference between the two groups may reflect those between schizophrenics and depressives specifically rather than more general differences between psychotics and neurotics. In fact, if general difference between neurotics and psychotics and specific difference between depressives and schizophrenics both exist, it would be impossible to distinguish which, if any, is responsible for variation between the two in our results. However, we must remember that we are not only testing the patients but also testing the validityof this form of semantic differential i.e. its ability to accurately characterize the existential-a-priori of each group separately. Since one group consists primarily

of depressives, we may in this case formulate hypotheses based on independently accepted psychodynamic description of the neurotic depressive and use these as a test of the accuracy of the semantic differential results. If the semantic differential gives us a description of the neurotic depressive that is congruent with this independently derived knowledge we may infer that the test has a certain degree of face validity. Having shown that the semantic differential does accurately describe one group we may more confidently presume that it also has validity in describiing the other group - the schizophrenics - It should be noted that no matter how many groups the semantic differential may be proven to accurately describe on the basis of congruence with independent descriptions, the application of the test to a new group will still involve a presumption of validity. However, in all research one must tentatively make this presumption before applying an instrument in a set of circumstances different than the set under which its use was originally validated. One can only make sure that the instrument (in this case the semantic differential) has been validated under conditions (the neurotic group) that are as similar to the experimental set (the psychotic group) as possible. Thus the purpose of trying to make sure that the two groups are not significantly different on variables other than that of psychotic versus neurotic mental status is twofold: 1. to maximize the probability that differences discovered between the groups are due only to that are variable and 2. to maximize the likelihood that the face validity of the semantic differential determined from descriptions of the neurotic group is transferable to the psychotics.

In this case we have already seen that the "one variable" separating the groups is a composite of the general neurotic-psychotic dichotomy and the specific one of the depressive vs.

schizophrenics. Although we can not differentiate between the these two components in accounting for group differences, we can say that if the hypothesized general neurotic-psychotic difference do exist and are being tapped by the test, than they should be reflected in differences between the two groups on THEIR RESULTS So that if the presumption of validity of the test (based on the description of the neurotic group) is accurate and the test is thus able to top the hypothesized differences if they exist than the finding of no difference between the groups is acceptable refutation of the hypotheses. This is just a particular application of the fact that, by definition, negative results on a valid test adequately refute the hypotheses.

In this study we have thus sacrificed the generality of the comparison between neurotics and psychotics in order to confirm the validity of the test using the depressives. Once having established the validity of the test we then may presume that it accurately describes the schizophrenics. Finally we may look at the our accurate description of the schizophrenics and see whether it is consistent with thehypotheses based on the Existential-Phenomenological theories. We may also compare the structure of the Existential-A-Priori of the depressives and the schizophrenics being that: 1. since one group is neurotic and the other psychotic the hypothesized differences between neurotic and psychotic should be true for them if they are true for all. 2. the presence of a difference between the groups does not necessarily mean that the same difference would appear between truly balanced groups of neurotics and psychotics 3. the absense of a difference between the groups refute the hypothesis of a general psychotic-neurotic difference.

With this knowledge of the implications of the difference in the diagnoses between the two patient groups, let us see how they

compare in terms of "psychotic" and "neurotic" mental status ratings. In Appendix K. Contingency Table 6, we see that the Chi-square test of differentiating between the groups on rating of the "psychotic-non-psychotic" scale by their residents for the initial administrations reveals a difference significant at the .003 level. The four "missing units" indicated beneath the table represent questionnaires not returned by the resident of the psychotic patients. However, we do see that with twenty out of the twenty-four "units" present, the psychotic group is seen by the resident as significantly more psychotic than the neurotic group for the initial administration.

In Appendix K., Contingency Table 7 we see similar comparisions between the ratings received by the two groups on the psychotic non-psychotic scales for the second administrations. In this case there are three residents of psychotic and two of neurotic who did not complete their questionnaires so that five "units" are missing. However, the Chi-square is still significant at the .01 level with the psychotic group remaining more psychotic than the neurotic group for the second administration.

Similar comparision between two groups on the "non-neurotic-neurotic" scale for the first and second administrations are seen in Appendix K., Contingency Tables 8 and 9. Significance levels of .011 and .049 respectively, indicate that the neurotic group is rated as more neurotic than the psychotic group on both administrations.

In summary it appears that the two groups are consistenly distinguished by the ratings of the resident on the "psychotic" and "neurotic" scales, so that, bearing in mind the actual diagnoses we may refer to one group as neurotic and the other as psychotic.

Now we must see if the two groups may be differentiated on

on any of the other identification data. The age distribution of the two groups is compared in Appendix K., Contingency Table 1 and found not to differ significantly. There are no missing "units" and the Chi-square of 3.744 does not reach the .05 significance level which we shall consider the minimum criteria for rejecting the null hypothesis.

Similarly the sex distribution between the two groups is examined in Appendix K, Contingency Table 5 and found not to differ significantly. This is obvious in that performing a test since there are six males and six females in each group of twelve patients.

On estimated intelligence , the two groups do not differ, with an insignificant Chi-square of 0.900 shown in Appendix K. Contingency Table 2. It should be noted that the Table was calculated on the basis of only the three highest of the six positions of the original intelligence rating scale seen in Appendix A. The cells corresponding to the three lowest positions were empty for both groups. They were eliminated to give more rigorous test of the differences in distribution between the two groups i.e. one with two degrees of freedom rather than five. The higher the number of degrees of freedom the lower the probability that a particular value of Chi-square will be significant so that a test with fewer degrees of freedom, if it is feasible is more sensitive.

Comparision of thetwo groups on education completed in Appendix K. Contingency Table 3, reveals no difference between them and insignificant Chi-sqaure of 0.476. A related variable, estimated socio-economic class , also does not differentiate between the two groups as seen in Appendix K., Contingency Table 4. The Chi-square of 0.392 is not significant.

One further comparision between the two groups is that of

number of weeks in the hospital, since the present admission or more accurately number ofweeks as an inpatient. Test of the ability of this variable to distinguish between the two groups, given in Appendix K.,Contingency Table 12, reveals no difference, with a Chi-square of 1.994. However, this lack of difference may be an artefact of the scale chosen to transform the continuous variable of time in the hospital to discrete one capable of being tested with Chi-square. This is probably true because the psychotic in the"over 30" class have been in the hospital one and one-half years while it is rare for the corresponding neurotic to have been in over eight months. Whether a change in the scale would reveal such a difference is, however, a must question since the initial adjustment to the hospital environment, the variable that we really want to control, is probably accomplished by thirty weeks. This comparision then is really indicating that it is likely that the two groups do not differ in the degree to which they are faced with having to make the initial adjustment to the ward environment.

It is not our goal to determine how the residents define th e terms "neurotic" and"psychotic" by correlating their ratings on these scales with the objective items on the short mental status form. It should be noted, however, that this could be easily accomplished. What we will do is look at the ratings of the two groups on one item on that form (Appendix B.) - the "total sickness" scale. The last item on the mental status form, the scale is really a subjective summary of the extent to which the previously rated formal components of abnormal behavior determine the apparent severity of the patient's "illness". It is literally a judgement of "how sick" the patient appears to be on the resident's own subjective scale of the severity of the various types of mental

illness. In Appendix K., Contingency Table 10 we see that for the first administration the psychotic group is seen as more severely ill than the neurotic group with a Chi-square of 17.564, significant at the .008 level. Similarly Appendix K., Contingency Table 11, reveals that for the second administration the psychotic group is still judged significantly more ill than the neurotic with a Chi-square of 12.595 significant at the .050 level. We see that the neurotic group is consistently judged as being less "sick" than the psychotics even though the patients were all considered sufficiently "sick" to be inpatients. Of course this may be explained the patients in each group being in different stages of "recovery". Perhaps our estimated date of discharge would have given us a better measure of comparision between the two groups on a similar "total sickness" scale. However, this would have ignored the variable of different discharge criteria for psychotic and neurotic patients. In any case these results are consistent with (but not definite conformation of) the conception that psychosis is somehow considered as a more severe mental disturbance than neurosis. The conception may be justified by comparision between the two types of mental illness in terms of "thought disorder", "ego function" or simplification of the existential-a-priori" but is shared by conventional psychodynamic and Existential-phenomenological theorists. The existence of this conception is supported by the resident's ratings in this study.

As we have seen, the psychotic group is judged as more psychotic, less neurotic and more sick for both administrations. The neurotic group is seen as more neurotic, less psychotic and less sick for both administrations and no other significant difference between the two groups were found on examination of the identification

data. The validity of the original decision of the patients into neurotic and psychotic groups has been confirmed by the residents and the lack of any other significant difference between them is also supported. One should note that there is no guarantee that all of the appropriate identification data to discern significant differences between the two groups has been gathered and tested. Yet we have tried to collect a "reasonable" set of data, concentrating on both general socioeconomic information and that which is likely to produce differential performance on a verbal test on the semantic differential (intelligence, education level, etc.) The validity of the resident's ratings had also been assumed and may only be tested in a study in which theirs are compared with those of independent observers who must have equal knowledge of the patients. The facts that the residents are in frequent contact with their patients and by virtue of their training are likely to be accurate observers of both themselves and their patients are presumptive evidence for accepting the validity of their ratings.

Although the validity of the resident's ratings must, in the end, be presumed we may compare their "psychotic" and "neurotic" scale ratings of the patients in both groups on the first and second administrations to get a means of their consistency over the one week interval. A significant difference between the first and second administrations would be difficult to interpret since it could result from either inconsistency of the resident's ratings or actual changes in the patients. On the other hand, a non-significant difference is likely to imply both consistency of the ratings and the absense of actual changes in the patients. Strictly speaking it is possible to have changes in the patients not reflected by the resident's ratings so that consistency would imply a lack of validity. But as will be seen in the section on

reliability, the patients do not indicate significant changes in themselves over the course of a week. Therefore, one would expect an absense of significant changes in the residents ratings of the patient's over the course of two administrations. Looking at Appendix K., Tables 13 and 14 we will see that indeed there are no significant differences between the first and second administration ratings of the patients or either the "psychosis" or the "neurosis" scales, The Chi-square are respectively 46.325 and 32.725 with neither reaching significance at the .050 level. Thus the consistency of the resident's ratings are confirmed.

One more point about the residents is that they also, as was mentioned in the procedure section, filled out a semantic differential questionnaire. Although these data may be factor analyzed and used as an aid to the formulation of the hypotheses for a more systematic study, they may not be legitimately compared with the results from the neurotic and psychotic groups. The residents as a group are known to differ significantly from both of the patient groups in being all male and having completed a greater amount of education. Further differences may be hypothesized as one in age range and socioeconomic distribution but the aforementioned are certainly enough to invalidate the comparability of the residents with the patient groups. Also the residents could not be accurately characterized as "normal" controls since we do not have independent ratings for them on the mental status scales. The semantic differential data from the residents may be used as a reflection of their immediate and one-week test-retest reliability on these sclaes but such a use can only have minimal bearing on the consistency of their ratings of the patients. The residents just can not be legitimately compared with the patients.

Now we have seen that the patient groups are likely to be

comparable, we may procede with the results of the factor analyses.

Factor Analysis Results

For the neurotic and psychotic groups respectively, we have the following information in Appendix J. : 1. Computational parameters for each factor analyses contained in Table 1 and 5 2. Loadings of each scale on the unrotated Principal Components factors in Table 2 and 6 3. Matrices describing the unrotated factor's loadings on the rotated factors - Tables 3 and 7 and 4. Loadings of each scale on the factor obtained by Varimax rotation - Table 4 and 8.

Since we have previously determined that we may compare results of the two groups on the factor obtained by Varimax Rotation we will first look at these in light of our previously formulated hypotheses.

Our first prediction on the basis of the existential-phenomenological understanding of the psychotic experience is that the number of factors (which equals the dimensionality of the semantic space or Existential-A-Priori and is a measure of the complexity of the latter would be fewer in the psychotic group than in the neurotic. As we can see from Appendix J. Tables 4 and 8, the neurotic group differentiated the scales into five significant factors while the psychotic group only gave us three. Since, as has been mentioned, the critera for stopping the extraction of additional factors is essentially arbitrary but based on the absence of significant unexplained correlationsinthe correlation matrix we must make sure that the same critera was used for both groups. Looking at the computational parameter for these analyses as contained in Appendix J - Table 1 and 5 we see that indeed the criterion of additional factor explaining less then ten percent of the total communality was the basis for stopping the analysis in both cases.

It is also possible that the total communality for the neurotic may be sufficiently greater then that of the psychotics to account for that of two extra neurotic factors. Since thirty-five scales are used in each case and the total variance of each in standard score form used in the factor analyses is 1.0, than the total variance is 35 times 1.0 or 35.0. For the neurotic [91], Appendix J., Table 4 tells us the total communality is 20.042 or 57% of the total variance. For the psychotics, Appendix J., Table 8 tells us that the total communality is 19.451 or 56% of the total variance. Another way of expressing the difference is as a percentage of the neurotic communality. The difference may thus seem as only 3% of the neurotic communality and is therefore too small to account for any additional factor which must, by our stopping critera, account for at least 10% of the communality.

We must conclude that the particular psychotic group as compared to the neurotic, satisfies the prediction of greater simplicity of organization of the existential-a-priori.

The next prediction was that the psychotics would yield a factor in which the scale "anxious-calm" is highly associated with such correlates of basic existence as a person or "thing-person" "unreal-real" and "destined-free". Furthermore, the magnitude of the threat to basic existence that defines the psychotic experience should lead to an association of the scale "dreading-hopeful" with this factor.

Before exploring this hypothesis we must decide what sized loading as a factor we will consider significant. Fruchter gives the following usable classification of loadings: below .2 is negligible, .2 to .3 is low, .3 to .5 is moderate, .5 to .7 is high, and above .7 is very high. Since we know that a factor is [92] <u>best</u> defined by the scales which are highly correlated with it

i.e. have very high loadings on it, we will arbitrarily choose those scales with loadings above .600 to define the factors. Appendix J., Table 9 and 10 lists the neurotic and psychotic factors respectively with arbitrary names and the defining scales with their loadings.

We see that psychotic factor 1 is the one predicted by the hypothesis. It contains all four of the aforementioned scales plus a number of others.

The association of any set of scales in defining a factor means that they tended to be used together by the individual in his description of both himself and the others on the semantic differential. The scales are thus highly intercorrelated and may be considered as a single dimension in the patient's choice of a relevant way of organizing the scales for the description of people. I say choice not because the particular organization is imposed on the framework of the semantic differential test by the individual's implicit decision about which adjective belongs together. Elucidation of an underlying common semantic bond between the pairs of adjectives that the individual has chosen to group together is one way of trying to reveal those factors basic to his organization of experiences i.e. his existential-a-priori. In looking at a factor, one must remember that each adjective pair both defines and is defined by the other. In order to discern the "flavor" of a factor one may first make sure that all the loadings are positive- reversing the order of any pair with a negetive loading to change the sign. Then one should read down the column of adjectives on the left hand side - realizing that they are all used together by the individual in the group. One may then similarly read the right hand column. A factor is named according to the underlying qualities that you feel binds the defining adjective pairs.. The inference

of such a quality may be combined by noting that scales with successively lower loadings on the factor have a decreasing relationship to the quality.

In light of the above we may look more clearly at the first psychotic factor. Let us use the device of having a hypothetical psychotic patient describe the association of scales in Factor 1. Such a patient might say, "I believe that for all people bad feelings as anxiety, tension, and guilt plus the feeling of pessimism or dread of the future are associated with the realization that they are destined to become an unreal, empty, meaningless, broken, thing, who ever now feel alone and shrinking. On the other hand, I also beleive that for all people good feelings of being calm , relaxed, and not being guilty plus an optimistic and hopeful view of the future are associated with the realization that they are free to be a real full meaningful whole person who even now feels growing and is not lonely.

Although it is certainly possible to organize the adjectives defining this factor into other equally meaningful descriptions of the world-view implied by their association, the fact is that these psychotic patients have defined anxiety or dread in existential terms. As predicted by the existential-phenomenological theorists, they see anxiety in terms of a threatened loss of existence in the sense of becoming "unreal" or a "thing". Furthermore this world-view is not only a significant dimension of the Existential-A-Priori according to which they describe both themselves and other people but is the most important of the factors-accounting for 43 percent of the communality. Since this factor is organized along the postulated continuum of existence as a person or a thing we may name it the existential intactness factor.

One more point about the order of each of the adjective pairs is that it seems to have considerable face validity. For instance one would not expect "optimistic" to by associated with "dreading" or "anxious" to be grouped with "relaxed" and indeed this is not the case. In fact the association of "bad" on the left side of the scale with all the other adjectives on that side seems to fit one's conception of which the particular members of each adjective pair should be seen as relatively "bad". The same may be said of "good" as associated with all the others on the right sides of the scales. The factor thus seems to exhibit not only an internal evaluative consistency but one in the same direction that we would expect from a "normal" person. Since there are further adjective pairs defining this factor and each one may be in two different orders, the chance of getting this consistent arrangement if the orders were actually random would be $(1/2)^{14}$ or one chance in about seventeen thousand. Thus it appears unlikely that the observed evaluation consistency is due to chance. The apparent fit of the order of the adjectives with the evaluation judgement one would expect from a normal person may be considered evidence against an hypothesis that the psychotic possesses a radically different set of values of known existence but this would have to be explained more systematically in another study.

Let us similarly look at the other two factors derived from the psychotic and then view the neurotic factor analysis in terms of validity and comparison The second factor (Appendix J-Table 10) for the psychotic is defined primarily by three adjective pairs-- "soft-hard", "feminine-masculine" and "sensitive-insensitive". This factor accounts for only 19 percent of the communality--less

than half the amount described by the first factor, and is thus not as important a constituent of the world-view of the psychotic. One may look at Appendix J, Table 8 and see that the scale "bad-good" and other scales with evaluative significance have negligible loadings on this factor. This factor seems to be organized more along lines of sex or potency and is similar to one that Osgood obtained from the analysis of semantic differential data from college students.

Infact Osgood[93] found three primary stable factors, an "evaluative" one characterized by such scales as "good-bad", an "activity" factor with high loadings as "active-passive" and a "potency" factor represented by the same scales as those we have seen in Table 2. Bopp, in 1955, applied scales representative of Osgood's three factors to schizophrenics and normal patients and found them to be consistently present. Since her data was analyzed by the principle component method[94] the results are analogous to those of the unrotated factor matrix seen in Appendix J, Table 6. Our results prove to be similar to hers in that unrotated Factor 1 is clearly evaluative with its highest loadings on "bad-good". Furthermore, the expected potency factor appears as unrotated Factor appears as unrotated Factor 2, with high loading on "feminine-masculine" and "soft-hard". However, the third factor is not "activity" as she would expect but is the existential intactness factor since its highest loading is the "thing-person" scale. Our results are not strictly comparable to hers since we did not use the same set of scales and certainly the existence of a factor can only be demonstrated if there are scales included in the test that are likely to correlate with it. However, it is interesting to note that after rotating the scales "bad-good", "masculine-feminine"

and "passive-active"--characteristically defining respectively the evaluative, potency and activity factor, appear with high loadings in the First, Second and Third psychotic factor (Appendix J, Table 10). In fact, one could even make a case for calling the First Factor "existential evaluation" since, as we have seen, it is strongly organized along both existential and evaluative lines. However, let us call Factor 2 for the psychotics "potency" and move on to Factor 3.

Factor 3 is almost as important in explaining the communality (38%) as Factor 1 and is defined by nine scales with very high loadings as can be seen in Appendix J, Table 10. We may integrate these scales around the changeable-stable dichotomy by invoking the same hypothetical psychotic patient who helped us with Factor 1. He states, "I believe that a changeable (unstable) person is likely to be indecisive and inconsistent and thus often puzzling because he is so vague. Such a person's life is likely to be disorderly and he may, if fact, be irresponsible to the point of being dishonest. On the other hand a stable person should be decisive and consistent and then usually understandable because his life style is so distinct. He is likely to lead an orderly responsible and honest life."

We thus see how stability and the ability to be decisive are linked for the psychotic. It should be recalled that one of our hypotheses was that the psychotic should have difficulty making decisions which should be expressible in his overuse of both the extreme end s of the semantic differential scale and the middle or neutral position. Although in a later section we will attempt to test this hypothesis, it is notable now that the question of being able the make decisions is so intimately entangled with that of stability for the psychotic and is such an important factor in

explaining the communality.

We should also note that this factor is similarly consistent on an evaluative basis as the first. The flavor of this consistency is sufficiently well evoked by reading the descriptions stated by our hypothetical patients.

Moving on to the neurotic factor analysis, we may first test the hypothesis that if the neurotics have a factor defined by such correlation of existential intactness as the scale "thing-person" and "unreal-real" it should not, contrary to thesituation of the psychotics, be the most important factor and it should be correlated with the anxious-calm scale. Factor 4 in Appendix J., Table 9 seems to be analogous to the psychotics existential intactness factor. It contains the scales "thing-person" and unreal-real", is not the most important factor in explaining the communality and shows an insignificant correlation of .075 with the anxious-calm scale as seen in Appendix J., Table 4. It seems then that the neurotics, while distinguishing an existential intactness factor, do not associate anxiety with it. In other words, in contrast to thepsychotic, the neurotics do not define anxiety by its association with a threat to basic existence. This is certainly consistent with the existential-phenomenological assertation that the presence of a threat to existence as aperson (leading to anxiety) is a unique feature of the psychotic world-design.

Since we see that for the neurotic anxiety is not associated with existential concerns we may legitimately ask how anxiety is defined by the neurotics. Considering that the neurotic group consists primarily of depressives, we would think that a factor should emerge defined by the scale reflecting its primary concerns - "depressed-elated." Looking at Factor 1, Appendix J., Table 9 we see that it is not only the most important of the neurotic factor - explaining 25 percent of the communality but that is indeed defined

by "depressed-elated" and related scales. Let us ask a hypothetical depressive to explain the association of the scales on this factor. He might say, "I believe that for people depression, tension, and anxiety are associated with feeling alone, like an empty, broken man. On the other hand calmness, relaxation, and elation, are associated with feeling like a full, whole man among others." It would certainly be difficult to argue that this factor does not reflect one of the most significant dimensions of the way the depressives organize his subjective experience. Since this factor is strongly defined by the scale "broken-whole", I believe it is legitimate to callit a depressive intactiveness factor. In other words, it is an association of those scales that the neurotic sees immediately relevant to the maintenance of personal "wholeness" or integrity in analogy to the Factor 1 of the psychotics.

Looking next at neurotic Factor 3 we see that it is second in importance to Factor 1, explaining 24 percent of the communality. We also see that from out of the six scales are the same as those of Psychotic Factor 3 - the stability factor. These include "irresponsible-responsible", "dishonest-honest", "inconsistent-consistent", and disorderly-orderly". However, the additional two scales - "guilty-innocent" and "abnormal-normal" seems to alter the character of the factor so that it is much more strongly evaluative than the psychotic factor and certainly not as clearly associated with indecision. This factor is difficult to characterize but the picture an "irresponsible, dishonest, abnormal,inconsistent, disorderly, and guilty man" seems like that of a man capable of being condemned for immorality. We will tenatively name it an evaluative factor. Cameron states that "the neurotic depressive expresses his guilt only a little disguised as inferiority, hopelessness and worthlessness." 95 So that certainly one would expect th have a factor associating guilt with"dishonesty", etc. However, it probably isn't the

presence of such a factor that differentiates the depressive from the normal since one would expect such an association in any person with a functional conscience.

In any case the composition and its existence of the factor highly associated with the scale "guilty-innocent" is not suprising in the depressive. But in the schizophrenic we remember that the primary loading of the scale was on the existential intactness factor 1. In other words, while guilt for the depressive was primarily defined by normal concerns as dishonesty and irresponsibility, for the psychotic it was associated with existential issues. This finding is certainly consistent with the existential-phenomenological hypothesis that the psychotic feels "guilty simply at being in the world in the first place." At least one may say that "guilt" appears to have a different meaning to the schizophrenic than to the depressive.

Finally let us look at the last neurotic factors 2 and 5. They are the smallest--explaining 19 and 12 percent of the communality respectively. They also seem together to constitute a potency factor. Unlike the psychotics, the depressives have separated a measure of causal potency (Factor 2) relatively independent of evaluative connotation from the "soft-hard" scale. Factor 2 for the neurotic, seen in Appendix J, Table 10, opposes the qualities of being emotional, destined, dependent and feminine to those of being reasoning, free, independent and masculine. The apparrently analogous factor for the psychotics is Factor 2, the potency factor, associating soft, feminine and sensitive with hard, masculine and insensitive. Psychotic factor 2 may be seen in Appendix J, Table 8 to have subsidiary loadings on the dependent-independent (.420) and emotional-reasoning (.590) scales but a negligibile association

with the destined-free (.155) and bad-good (.006) scales.

One sees then that the scale "destined-free", is not associated with the psychotic potency factor while strongly defining neurotic Factor 2 We may then summarize the difference between them by saying that neurotic Factor 2 is more a reflection of causal potency--the power associated with freedom and reasoning. For the psychotics, the scale "destined-free" is seen as part of the existential intactness factor and is thus primarily relevant to the existential concerns described therein. The result is certainly expected according to the existential-phenomenological theory that a threat to the basic freedom to define oneself by one's own action rather than having to accept the predetermined verdicts of destiny is one of the primary concerns of the psychotic. The neurotics, on the other hand, may be aware of causal potency as a factor relevent to the description of people but do not associate it with anxiety, depression or other indications of the discomfort that presumably accompanies issues of primary concern.

The last neurotic factor, number 5, is defined by the single scale "soft-hard" with a high negative loading of -.788. This scale is found, for the psychotics, primarily in the potency factor. In order to more precisily define the neurotic factor let us list the few scales with relatively high loadings on it. From Table 4, Appendix J,we see that the following scales have fairly substantial loadings in neurotic Factor 5. We will list them with their order adjusted to make all of the signs of the loadings positive.

hard-soft	(.788)
durable-fragile	(.415)
strong-weak	(.427)
bad-good	(.537)
guilty-innocent	(.571)

The first three pairs of adjectives are reflections of potency and stability. The depressives seem to be saying the badness and guilt in people are associated with strength and endurance while goodness and innocence are associated with fragility and weakness. Cameron does say that feelings of badness and guilt are stable components of the existence of the neurotic depressive who, "hates himself but does not know it." One might then expect such a person to associate badness and guilt with the strength and endurance of others and to see goodness and innocence as weak and fragile qualities. It should be noted that this association contrasts with that of the schizophrenics found in their stability factor and based also on the following second loadings:

fragile-durable	(.466)
weak-strong	(.494)
bad-good	(.549)
guilty-innocent	(.441)

This factor groups fragility, weakness, badness and guilt and contrasts these qualities with durability, strength, goodness and innocence. One might have expected this more "conventional" grouping from the schizophrenics since their guilt is presumably existential and thus closely associated with a threat to their precarious existence. Guilt and stability for the schizophrenics would thus be mutually exclusive to them--leading to the associations shown above. For the depressive, whose basic existence as a human being is not in doubt, guilt and badness may be a steady feature of a stable life-style. The depressiveswould then certainly be likely to describe themselves and others in terms of a factor in which guilt and stability or potency are correlated. However, one must remember that this is the "smallest" of the neurotic factors and the preceding interpretation was based on secondary loadings of dubious significance.

To summarize this section on the interpretation of the factor analyses we may say that the following predictions of the existential-phenomenological school were confirmed:

1. The psychotic group was shown to have a less complex Existential-A-Priori in terms of organization of these scales--grouping them into three factors as opposed to the neurotic's five.

2. The psychotic group was seen to define an existential intactness factor in which scales reflecting existential concerns as "thing-person", "unreal-real" and "destined-free" were highly associated with disruptive feelings as anxiety, tension, guilt and dread.

3. The aforementioned factor was found to be the most important or "largest" for the psychotic group in terms of explaining the communality.

4. A similar but much "smaller" factor was found in the neurotic group and was not associated with the aforementioned disruptive emotions.

5. A factor associating stability and conflict about decision making was found to account for a large part of the psychotic communality.

Furthermore, the following psychodynamically predictable results contribute to the assumption of "face" validity of the above:

1. All factors were found to exhibit internal evaluation consistency as defined by the order of each adjective pair defining them.

2. The neurotic group, primarily depressive, was shown to exhibit a depressive intactness factor in which the scale "depressed-elated" was correlated with known concomitants of depression as "lonliness" and emptiness".

3. The aforementioned factor was the most important for the neurotic group.

4. "Guilt" for the depressive was seen to be highly correlated with moral issues as "dishonesty" and "irresponsibility" as opposed to the existential concern.

5. "Guilt" for the depressive was characterized as a durable feature of existence.

In the next section we will test the hypothesis that the two groups differ in their ability and style of making the decisions required in taking the semantic differential.

Decision Tests

Our original hypothesis was that the psychotic patient, relative to the neurotic, would mark an excess of positions 1, 4, and 7 on the semantic differential scales as opposed to 2, 3, 5, and 6 (P.39). This prediction was made on the basis of Binswanger's theory of psychosis implying "the spiltting off of experiemental consistency into alternatives, into a rigid either -or." Consequently inability to withstand the tension between alternatives should thus lead to attempts of the psychotic to either submerge or renounce one side of the alternative and renounce the faculty of choice. Choices corresponding to positions 1 and 7 represent the extremes of each scale or the complete rejection of the unchosen side. Position 4 provides a way of avoiding the decision since it is equidistant between the two extremes. In fact, an "extremeness" continuum may be defined so that for each scale the two ends (positions 1 and 7) are characterized by the adverb extremely, the adjacent positions (2 and 6) by quite, by the next ones (3 and 5) by slightly and the last (4) by equally. (P.59) These adverbs may be considered respectively to represent decreasing degrees of "extremeness" of decision between the adjectives defining the opposite sides of the scale. The hypothesis may be reformulated to state that the psychotic group should vary significantly from the neurotic in the way he uses the scales so that:

1. the psychotic should use the "extremely" and "equally" positive more than the neurotic and
2. the psychotic should use the "quite" and "slightly" positions less than the neurotic.

The first question asked in approaching this hypothesis is whether there is an overall significant difference between the way the two groups use the seven alternatives.. The answer

given in Appendix L. Table 1 is emphatically "yes". Comparing the two groups on the seven alternatives, we see that the total Chi-square is 104.08, significant well beyond the .01 level. We may look to see where the most significant difference between the two groups are located. Each "individual Chi-square" may be regarded as a one degree of freedom test for significant difference between the two groups or each particulat alternative. We see that the differences are significant on each of the seven alternatives. The extremes and the neutral position are overused by the psychotics at the .05 and the .01 levels respectively. The other positions are used significantly less than the psychotics (the .01 level).

Although these results are consistent with an hypothesis, they may be at least partly explained by differences between groups on position preference for the left or right sides of the scales. This may be tested for each group individually. In Appendix L., Table 2, we have combined the frequencies of the left sided alternative and compared them for each group with those of the right. Both groups yield Chi-squares that do not approach the .05 level of significance so that for <u>each group</u> we must accept the hypothesis that the right side and the left side are used similarly. Even though we now know that <u>within each</u> group the right and left sides are used similarly, we still ask if there are any such differences <u>between</u> groups. In Appendix L., Table 3, the left and right sided frequencies for both sides are compared. Expected frequencies have been calculated using the appropriate marginal totals since the frequencies of position 4 were not included. The total Chi-square of .0033 (DF=1) is not significant so that we may say that there is no position preference for the left or right sides of the scales within or between groups.

Finally, looking at Appendix L., Table 4 we see that the total

Chi-square for the two groups compared according to the "extremes" categories is 93.40 (significant to the .01 level). We also see that the individual differences are all significant at the .01. level-with the psychotic using the "extreme" and "equal" categories more and the others less than the neurotics. These differences are exactly those predicted by the hypothesis but are still not simple to interpret. Firstly, we see that much of the difference between the two groups is accounted for by the fact that the psychotics used position 4 more than the neurotics. This is a combination of two tendencies within theindividual group.The neurotics, as can be seen in Appendix L., Table 4, use each of the first three categories approximately equally but the fourth only half as much as any one of the others. The psychotics seem to have SACRIFICED use of the "quite" and "slightly" categories to add to the "extreme" and "equal" ones. Combination of these two trends creates the relative excess of psychotic use of the"equal" category. One problem in interpretation of this excess is that we can not distinguish between a "position preference" for the center of the scale or sheet of paper and a choice on the level of indecision. Furthermore, we can not distinguish between a use of position 4 due to 1. the decision that the particular scale is irrelevant to the person being described or 2. the decision that the person posseses equally the two qualities named in the scale or 3. the inability to make the decision.

It is even a possibility that the psychotic may tend to use only this particular set of scales in this fashion, so that these differences do not represent a stable tendency of thepsychotic to make "extreme" or "neutral" decisions. This latter possibility may be DISCARDED since Bopp, using a different set of scales, found

similar tendencies in a group of schizophrenics as compared with normal hospital patients.[98]

Yet, there are enough ambiguities left in the interpretation of these data that they defy rigorous analysis. We may only say that they are consistent with 1. the hypothesis based on Binswanger's understanding of the psychotic experience 2. the presence of the large stability factor correlated with the decision-indecision scale in the psychotics factor analysis 3. the independently derived data of Bopp and 4. conventional hypotheses of "ambivalence" as an important quality of psychotic subjective experience.

Reliability

As explained in the section on Data Analysis (P.59), both immediate and one week test-retest item reliability correlation coefficents were calculated for the resident and patient groups. However, before looking at these results we must consider what they are measuring.

The reliability of any set of measurements is logically defined as the proportions of their variance that is true variance as opposed to error variance. True variance is determined by things that contribute to an individual's making the same score in repeated applications of a test. Examples of determinants of true variance include the individual's general skill at test taking, skill in taking the particular test given, and individual status in the enduring abilities, skills or traits that are measured by the test.[98] On the other hand, things, (aside from true variation in traits measured by the test) that contribute to varying performance of an individual on a test determine error variance. These include

temporary conditions, either of the patients or of the testing environment. Examples are the patient's state of health, fatigue , or boredom, merely for answers given in the first session and amount of time between the testing session. It should be noted that to the extent a test measures such extraneous variables it is not only unreliable but inaccurate. As described in the chapter on procedure, attempts were made to standardize the administration of the test to thepatient groups and to maximize the motivation of the patients and the residents to participate. If these attempts were successful they should have minimized the majority of the aforementioned contributive to the error variance. However, it should be noted again that the residents' questionnaires were not personally administed so that there certainly was some variation in the testing procedure.

Ideally, an accurate remeasurement of a completely stable characteristic should be perfectly reliable (or reproducible). Knowing this, we may divide the potential sources of imperfect reliability into those based on inaccuracy of the test and those reflecting instability of the individual on the characteristics measured. The accuracy of a test can only be measured by the validity of the results it gives us measured by independent criteria. In the previous section we have tried to show that the results of our semantic differential are valid. We would thus expect unreliability to primarily reflect, in this case, variation in the individual's description of the people on the scales. Although the scale ratings may accurately reflect the individual's feelings about the people he describes, we can not deny the fact that these feelings and their expression are affected by the "extraneous" factors previously mentioned. By dealing directly with the patient's subjective descriptions of others, we measure characteristics that are inherently

unstable and thus to one extent may have increased accuracy reflected in Decreased reliability. One would not however, expect such instability to be very much evident over slight time intervals. Granting accuracy, significant items in reliability coefficients should imply stability of the patients' descriptions of others on the scales over a period of time. Non-significant results should imply instability of these descriptions. Although non-stability might reflect actual change in the characterization of the people being described, this is unlikely to be significant over the course of one week.

Knowing how the reliability calculations may be interpreted, we may review the actual results. We see in Appendix J, Table 1, that all but two of the immediate test-retest itemreliability calculations are significant at the .01 level, with those two still significant at the .05 level. Furthermore, in Appendix J., Table 2 we see that all but three of the one week test-retest correlations for the thirty-five scales are significant at the .01 level - with those three significant at the .05 level. We may conclude that all three groups - the neurotic, psychotic, and residents, exhibit significant stability in their use of scales.

We may also test the actual differences between test and retest ratings in the case of the immediate test-retest data. If these differences are not significantly variant from 0 by a T-test than we may extend an original discovery that the two ratings are stable in the sense of being are highly correlated i.e. they may act together to an ascertion that they are essentially the same. This has been accomplished for the neurotics, psychotics, and residents in Appendix J, Table 3, 4, 5, respectively. We see that none of the immediate test retest rating difference are significant at the .05 level.

We may conclude that the semantic differential results do

exhibit significant reliability over time for each group on all scales. This indicates that even at the level of individual scale ratings where any significant unreliability should be evident, the semantic differential is topping relatively stable aspects of the individual's subjective experience. The legitimacy of combining in the data analysis the results of two testing sessions separated by a week interval is then demonstrable. Since the sessions exhibit high intercorrelation on the "score" level, we may infer that the factor structures derived from these correlations top basic rating tendencies that are consistent within the individual -- at least over the course of one week.

Summary and Conclusions

Although specific conclusions are given in the appropriate sections, we may review the plan of study and summarize the implications of some of the more basic findings. The plan was to present the extential-phenomenological desciption of psychotic subjective experience to groups of neurotic and psychotic patients for validation. To this end the extential-phenomenological was received and found to characterize psychotic experience as an outgrowth of insecurity about continued existence as aperson rather than an object. Twenty-five bipolar pairs of antonymous adjectives were found to encompass those dimensions along which psychotic experience should be differentiated from neurotic. It was hypothesized that in using these adjectives to describe people, patients would reveal their basic assumptions about how the attributes named by the adjectives are associated. These assumptions constitute the individual's world-design or the way he organizes experience and are collectively termed the Existential-A-Priori. Factor analysis as applied to a semantic differential test in which patients described

themselves, their mother, their father, and their psychiatrists was used as the tool for making these assumptions explicit.

The test was applied twice to groups of twelve neurotic and psychotic patients with their respective psychiatric residents. Repeated administrations yielded measure test-retest reliability and factor analyses gave several comparison between the groups. The existential-phenomenological prediction that the psychotics would show a simplier, more constricted existential-a-priori was confirmed by the relative simplicity of their factor matrix. Furthermore, the psychotic as predicted, associated disintergration and descriptive emotions as anxiety with existential issues as being "destined" versus " free" or a "thing" versus a "person". Furthermore, the psychotic, as predicted, showed a large factor in which measure of instability were associated with difficulty in making choices or decisions. Their difficulty with making decisions, personally as a result of the polarization of their experince in rigid alternative in an attempt to fight loss of stability, was further confirmed by three relative overuse of the most extreme and most neutral choices unavailable on the semantic differential test.

The neurotics, a group consisting primarily of depressives, exhibited an important factor associating disintergration with disruptive emotions, particularly depression. The existential "intactness" factor of the psychotic was also present although it was relatively quite small and not associated with such emotions.

Patient groups were chosen so that they did not differ significantly as such variables as age, sex, socioeconomic status, estimated intelligence, and education completed. However, questions of the validity of the results reached around the size and diagnosis of the groups and the combination of the data from the two administrations in the factor analyses. It was considered legitimate to combine the data as indicated above if the presence of individual consisting

over the admininistrations demonstrated that stable rating tendencies were being topped by the test. Consistency was proven by significant one week test-retest item reliability correlations for all groups over all scale Furthermore, such a combination of data taken from the same individual over a period of time was used by Osgood in his study of a case of triple personality. When the data were conbined, ninety-six sets of the thirty-five adjective pairs were used in factor analysis of each group.

The size and composition of the groups were certainly inadequate to represent the entire spectrum of the psychotic or neurotic. In fact the psychotics were primarily schizophrenics while the neurotics were depressive. This sized group is certainly more representitive of these narrow categories, although it is certainly time that the larger the group the greater the generality of the results. Also, prediction based on knowledge of the depressive subjective state independent of the existential-phenomenological viewpoint were tested. Confirmation provided evidence of face validity of the test which was further supported by the evaluative consistency of the arrangement of the adjective pairs within each factor. It was concluded that <u>if</u> the hypothesized differences between neurotics and psychotics exist, than they should be evident in the results of this study using two <u>specific</u> groups of them. However, it is recognized that positive results do not imply that the specific differences found apply to <u>all</u> neurotics versus psychotics.

Yet the results of this study undoubtly do <u>support</u> the existential-phenomenological conception of the difference between psychotic and neurotic experience. <u>This does not mean that the other views of this dinction are not equally valid</u>. In fact of the phenomenologists have any point at all it is that multiplicity of perspectives are necessary to be able to talk realistically about

human beings. The primary conclusion of this study should be that these particular theorists have given us a perspective both worthy of and capable of being further explored.

APPENDICES

APPENDIX A: PRELIMINARY INFORMATION QUESTIONNAIRE

RESIDENT PATIENT

1. NAME

2. AGE

3. EDUCATION COMPLETED

4. TYPE AND SIZE OF RESIDENCE

5. RESIDENCE OWNED, RENTED, ETC.?

6. LIVING WITH (PARENT, SPOUSE, ETC.)?

7. EXACT OCCUPATION

8. PARENTS LIVING?
(IF NOT STATE AGE AT DEATH AND YEAR OF DEATH)

9. ESTIMATE OF PATIENT'S SOCIALECONOMIC CLASS: LOWER MIDDLE UPPER

10. ESTIMATE OF PARIENT'S INTELLIGENCE: SUPERIOR BRIGHT NORMAL AVERAGE DULL NORMAL BORDERLINE DEFECTIVE

11. PATIENT'S ADMISSION DIAGNOSIS:

12. PATIENT'S PRESENT DIAGNOSIS:

APPENDIX B: SHORT MENTAL STATUS FORM

'S NAME _____ RATER _____

DATE _____

INTERVIEWER _____

2	3	4	5	6	7
sent	very mild	mild	moderate	mod. severe	severe	extremely severe

atic concern (degree to which physical lth is perceived as a problem)	1. _____
iety (verbal report of worry, fear or concern for sent or future)	2. _____
tional withdrawal (failure of emotional tact in interview situation)	3. _____
ceptual disorganization (thought processes are fused, disconnected, disorganized)	4. _____
lt feelings (verbalized subjective remorse for t behavior)	5. _____
sion (objective evidence of tension, nervousness, reased activation)	6. _____
nerisms and posturing (abnormality of movements)	7. _____
ndiosity (statements of unusual ability in comparison others)	8. _____
ressive mood (despondency in mood - sadness)	9. _____
stility (verbal - animosity, contempt, belligerence, stain for others)	10. _____
spiciousness (others have malicious or discriminatory cent)	11. _____
llucinatory behavior (perceptions s normal external imulus)	12. _____
tor retardation (reduced body tone, energy level, owed movements)	13. _____
cooperativeness (resistance, unfriendliness, sentment in interview)	14. _____
usual thought content (unusual, odd, strange, bizarre)	15. _____
unted affect (reduced emotional tone)	16. _____
citement (heightened emotional tone, increased reactivity)	17. _____

APPENDIX B - CONTINUED

sorientation (confusion over person, place or time)	18. _____
icidal thinking (wishing one were dead)	19. _____
ck of energy (subjective reports of fatigue)	20. _____
tal sichness	21. _____

APPENDIX C: THE SCALES USED IN CONSTRUCTING THE SEMANTIC DIFFERENTIAL

BAD-GOOD

DISHONEST-HONEST

HIDDEN-REVEALED

PESSIMISTIC-OPTIMISTIC

DREADING-HOPEFUL

ANXIOUS-CALM

TENSE-RELAZED

SHRINKING-GROWING

DEPRESSED-ELATED

GUILTY-INNOCENT

UNPREDICTABLE-PREDICTABLE

CHANGEABLE-STABLE

FRAGILE-DURABLE

INCONSISTENT-CONSISTENT

PUZZLING-UNDERSTANDABLE

MEANINGLESS-MEANINGFUL

DISORDERLY-ORDERLY

18. EMOTIONAL-REASONING
19. DESTINED-FREE
20. IRRESPONSIBLE-RESPONSIBLE
21. DEPENDENT-INDEPENDENT
22. INDECISIVE-DECISIVE
23. THING-PERSON
24. PASSIVE-ACTIVE
25. INCOMPLETE-COMPLETE
26. BROKEN-WHOLE
27. ABNORMAL-NORMAL
28. EMPTY-FULL
29. VAGUE-DISTINCT
30. UNREAL-REAL
31. SOFT-HARD
32. WEAK-STRONG
33. FEMININE-MASCULINE
34. SENSITIVE-INSENSITIVE
35. ALONE-CROWDED

APPENDIX D: FORMS 1 THROUGH 4

STABLE	___ : ___ : ___ : ___ : ___ : ___ : ___	CHANGEABLE
CONSISTENT	___ : ___ : ___ : ___ : ___ : ___ : ___	INCONSISTENT
ALONE	___ : ___ : ___ : ___ : ___ : ___ : ___	CROWDED
ESPONSIBLE	___ : ___ : ___ : ___ : ___ : ___ : ___	RESPONSIBLE
DEPRESSED	___ : ___ : ___ : ___ : ___ : ___ : ___	ELATED
DURABLE	___ : ___ : ___ : ___ : ___ : ___ : ___	FRAGILE
RELAXED	___ : ___ : ___ : ___ : ___ : ___ : ___	TENSE
PUZZLING	___ : ___ : ___ : ___ : ___ : ___ : ___	UNDERSTANDABLE
PASSIVE	___ : ___ : ___ : ___ : ___ : ___ : ___	ACTIVE
STRONG	___ : ___ : ___ : ___ : ___ : ___ : ___	WEAK
INDECISIVE	___ : ___ : ___ : ___ : ___ : ___ : ___	DECISIVE
SOFT	___ : ___ : ___ : ___ : ___ : ___ : ___	HARD
THING	___ : ___ : ___ : ___ : ___ : ___ : ___	PERSON
UNREAL	___ : ___ : ___ : ___ : ___ : ___ : ___	REAL
ESSIMISTIC	___ : ___ : ___ : ___ : ___ : ___ : ___	OPTIMISTIC
ANXIOUS	___ : ___ : ___ : ___ : ___ : ___ : ___	CALM
WHOLE	___ : ___ : ___ : ___ : ___ : ___ : ___	BROKEN
NORMAL	___ : ___ : ___ : ___ : ___ : ___ : ___	ABNORMAL
HOPEFUL	___ : ___ : ___ : ___ : ___ : ___ : ___	DREADING
INCOMPLETE	___ : ___ : ___ : ___ : ___ : ___ : ___	COMPLETE
REASONING	___ : ___ : ___ : ___ : ___ : ___ : ___	EMOTIONAL
DISHONEST	___ : ___ : ___ : ___ : ___ : ___ : ___	HONEST
MASCULINE	___ : ___ : ___ : ___ : ___ : ___ : ___	FEMININE
ORDERLY	___ : ___ : ___ : ___ : ___ : ___ : ___	DISORDERLY
MEANINGLESS	___ : ___ : ___ : ___ : ___ : ___ : ___	MEANINGFUL

FREE	___	___	___	___	___	___	___ DESTINED
)ICTABLE	___	___	___	___	___	___	___ UNPREDICTABLE
BAD	___	___	___	___	___	___	___ GOOD
:PENDENT	___	___	___	___	___	___	___ INDEPENDENT
:NSITIVE	___	___	___	___	___	___	___ SENSITIVE
)ISTINCT	___	___	___	___	___	___	___ VAGUE
FULL	___	___	___	___	___	___	___ EMPTY
GROWING	___	___	___	___	___	___	___ SHRINKING
CROWDED	___	___	___	___	___	___	___ ALONE
HIDDEN	___	___	___	___	___	___	___ REVEALED
:NNOCENT	___	___	___	___	___	___	___ GUILTY

FORM TWO

WHOLE	___	___	___	___	___	___	BROKEN
ESSIMISTIC	___	___	___	___	___	___	OPTIMISTIC
REAL	___	___	___	___	___	___	UNREAL
THING	___	___	___	___	___	___	PERSON
FREE	___	___	___	___	___	___	DESTINED
ACTIVE	___	___	___	___	___	___	PASSIVE
GROWING	___	___	___	___	___	___	SHRINKING
HOPEFUL	___	___	___	___	___	___	DREADING
EMOTIONAL	___	___	___	___	___	___	REASONING
DISHONEST	___	___	___	___	___	___	HONEST
COMPLETE	___	___	___	___	___	___	INCOMPLETE
WEAK	___	___	___	___	___	___	STRONG
SOFT	___	___	___	___	___	___	HARD
FRAGILE	___	___	___	___	___	___	DURABLE
FULL	___	___	___	___	___	___	EMPTY
INDECISIVE	___	___	___	___	___	___	DECISIVE
TENSE	___	___	___	___	___	___	RELAXED
CROWDED	___	___	___	___	___	___	ALONE
VAGUE	___	___	___	___	___	___	DISTINCT
BAD	___	___	___	___	___	___	GOOD
ORDERLY	___	___	___	___	___	___	DISORDERLY
NDEPENDENT	___	___	___	___	___	___	DEPENDENT
PUZZLING	___	___	___	___	___	___	UNDERSTANDABLE
MEANINGFUL	___	___	___	___	___	___	MEANINGLESS
GUILTY	___	___	___	___	___	___	INNOCENT

STABLE	___	___	___	___	___	___	___	CHANGEABLE
REVEALED	___	___	___	___	___	___	___	HIDDEN
ABNORMAL	___	___	___	___	___	___	___	NORMAL
EDICTABLE	___	___	___	___	___	___	___	UNPREDICTABLE
MASCULINE	___	___	___	___	___	___	___	FEMININE
DEPRESSED	___	___	___	___	___	___	___	ELATED
SPONSIBLE	___	___	___	___	___	___	___	RESPONSIBLE
CALM	___	___	___	___	___	___	___	ANXIOUS
SENSITIVE	___	___	___	___	___	___	___	INSENSITIVE
PERSON	___	___	___	___	___	___	___	THING
ONSISTENT	___	___	___	___	___	___	___	INCONSISTENT

NSENSITIVE	___	___	___	___	___	___	___ SENSITIVE
PASSIVE	___	___	___	___	___	___	___ ACTIVE
INCOMPLETE	___	___	___	___	___	___	___ COMPLETE
PREDICTABLE	___	___	___	___	___	___	___ PREDICTABLE
DURABLE	___	___	___	___	___	___	___ FRAGILE
DREADING	___	___	___	___	___	___	___ HOPEFUL
DISORDERLY	___	___	___	___	___	___	___ ORDERLY
HONEST	___	___	___	___	___	___	___ DISHONEST
NCONSISTENT	___	___	___	___	___	___	___ CONSISTENT
MEANINGLESS	___	___	___	___	___	___	___ MEANINGFUL
DECISIVE	___	___	___	___	___	___	___ INDECISIVE
RELAXED	___	___	___	___	___	___	___ TENSE
NORMAL	___	___	___	___	___	___	___ ABNORMAL
BROKEN	___	___	___	___	___	___	___ WHOLE
EMPTY	___	___	___	___	___	___	___ FULL
HARD	___	___	___	___	___	___	___ SOFT
FEMININE	___	___	___	___	___	___	___ MASCULINE
HIDDEN	___	___	___	___	___	___	___ REVEALED
REASONING	___	___	___	___	___	___	___ EMOTIONAL
OPTIMISTIC	___	___	___	___	___	___	___ PESSIMISTIC
ELATED	___	___	___	___	___	___	___ DEPRESSED
ANXIOUS	___	___	___	___	___	___	___ CALM
SHRINKING	___	___	___	___	___	___	___ GROWING
UNREAL	___	___	___	___	___	___	___ REAL
GOOD	___	___	___	___	___	___	___ BAD

DISTINCT	___ : ___ : ___ : ___ : ___ : ___ : ___	VAGUE
PERSON	___ : ___ : ___ : ___ : ___ : ___ : ___	THING
DEPENDENT	___ : ___ : ___ : ___ : ___ : ___ : ___	INDEPENDENT
ALONE	___ : ___ : ___ : ___ : ___ : ___ : ___	CROWDED
DESTINED	___ : ___ : ___ : ___ : ___ : ___ : ___	FREE
COMPLETE	___ : ___ : ___ : ___ : ___ : ___ : ___	INCOMPLETE
STRONG	___ : ___ : ___ : ___ : ___ : ___ : ___	WEAK
RESPONSIBLE	___ : ___ : ___ : ___ : ___ : ___ : ___	IRRESPONSIBLE
UNDERSTANDABLE	___ : ___ : ___ : ___ : ___ : ___ : ___	PUZZLING
INNOCENT	___ : ___ : ___ : ___ : ___ : ___ : ___	GUILTY
CHANGEABLE	___ : ___ : ___ : ___ : ___ : ___ : ___	STABLE

FORM FOUR

SENSITIVE	___	___	___	___	___	___	___	INSENSITIVE
UNPREDICTABLE	___	___	___	___	___	___	___	PREDICTABLE
ELATED	___	___	___	___	___	___	___	DEPRESSED
NDERSTANDABLE	___	___	___	___	___	___	___	PUZZLING
DISORDERLY	___	___	___	___	___	___	___	ORDERLY
INCONSISTENT	___	___	___	___	___	___	___	CONSISTENT
OPTIMISTIC	___	___	___	___	___	___	___	PESSIMISTIC
REVEALED	___	___	___	___	___	___	___	HIDDEN
RESPONSIBLE	___	___	___	___	___	___	___	IRRESPONSIBLE
GUILTY	___	___	___	___	___	___	___	INNOCENT
CHANGEABLE	___	___	___	___	___	___	___	STABLE
DECISIVE	___	___	___	___	___	___	___	INDECISIVE
PERSON	___	___	___	___	___	___	___	THING
DESTINED	___	___	___	___	___	___	___	FREE
WEAK	___	___	___	___	___	___	___	STRONG
MEANINGFUL	___	___	___	___	___	___	___	MEANINGLESS
REAL	___	___	___	___	___	___	___	UNREAL
FRAGILE	___	___	___	___	___	___	___	DURABLE
COMPLETE	___	___	___	___	___	___	___	INCOMPLETE
EMPTY	___	___	___	___	___	___	___	FULL
CROWDED	___	___	___	___	___	___	___	ALONE
EMOTIONAL	___	___	___	___	___	___	___	REASONING
DREADING	___	___	___	___	___	___	___	HOPEFUL
FEMININE	___	___	___	___	___	___	___	MASCULINE
GOOD	___	___	___	___	___	___	___	BAD

ABNORMAL	___	___	___	___	___	___	___	NORMAL
HARD	___	___	___	___	___	___	___	SOFT
TENSE	___	___	___	___	___	___	___	RELAXED
SHRINKING	___	___	___	___	___	___	___	GROWING
VAGUE	___	___	___	___	___	___	___	DISTINCT
ORDERLY	___	___	___	___	___	___	___	DISORDERLY
ACTIVE	___	___	___	___	___	___	___	PASSIVE
NDEPENDENT	___	___	___	___	___	___	___	DEPENDENT
BROKEN	___	___	___	___	___	___	___	WHOLE
CALM	___	___	___	___	___	___	___	ANXIOUS
HONEST	___	___	___	___	___	___	___	DISHONEST

NDIX E _ PARING OF FORMS AND PEOPLE DESCRIBED IN THE STANDARD ADMINISTRATIONS

INISTRATION	FORM	PERSON DESCRIBED
	3	myself
	1	my psychiatrist (or patient)
	4	my mother
	2	my father
	4	my psychiatrist (or patient)
	2	myself
	3	my father
	1	my mother
	3	my mother
	2	my psychiatrist (or patient)
	4	my father
	1	myself
	1	my father
	4	myself
	3	my psychiatrist (or patient)
	2	my mother

'PENDIX F : THE PARTICULAR STANDARD ADMINISTRATION USED IN TESTING TWELVE PATIENTS - RESIDENTS PAIRS PER GROUP

SIGNED NUMBER OF TIENT - RESIDENT PAIR:		NUMBER OF STANDARD ADMINISTRATION USED IN :	
UROTIC GROUP	PSYCHOTIC GROUP	FIRST TEST	SECOND TEST
	13	3	1
	14	4	2
	15	4	1
	16	3	2
	17	1	2
	18	4	3
	19	2	3
	20	1	4
	21	4	2
)	22	3	1
-	23	3	2
!	24	1	4

APPENDIX G : INSTRUCTIONS

The purpose of this study is to measure how people describe other people by having them judge them on a series of descriptive scales. Please make your judgement on the basis of how you feel about these people.

On each page of this booklet you will find a different person to be described and beneath the person a set of scales. Please rate the person on each of these scales in order as follows:

If you feel that the person at the top of the page is very closely related to the end of the scale place your check mark as follows:

hard X : ___ : ___ : ___ : ___ : ___ : ___ soft

or

hard ___ : ___ : ___ : ___ : ___ : ___ : X soft

If you feel that the person is quite closely related to one or the other end of the scale (but not extremely) you should place your check mark as follows:

hard ___ : X : ___ : ___ : ___ : ___ : ___ soft

or

hard ___ : ___ : ___ : ___ : ___ : X : ___ soft

If the person seems only slightly related to one side as opposed to the other side (but not really neutral), then you should check as follows:

hard ___ : ___ : X : ___ : ___ : ___ : ___ soft

or

hard ___ : ___ : ___ : ___ : X : ___ : ___ soft

The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic to you of the person you are judging.

If you consider the person to be neutral on the scale, both sides of the scale equally associated with the person, or if the scale is completely irrevelent, unrelated to the person, then you should place your check mark in the middle space.

APPENDIX G: CONTINUED

hard ___ : ___ : ___ : X : ___ : ___ : ___ soft

IMPORTANT: 1. Place your check marks in the middle of spaces, not on the boundaries.

2. Be sure to check every scale for every person - do not omit any

3. Never put more than one check mark on a single scale.

Sometimes you will feel as though you've recently had the same scale before on a test. This will not be the case so do not look back and forth through the scales.

Do not try and remember how you checked similar scales earlier in the test. Make each item a separate judgement. Work at a fairly high speed and do not worry or puzzle over individual items. It id your first impression, the immediate "feelings" about the items that we want. On the other hand please do not be careless because we want your true impression.

There will be about one and a half pages of scales used for each person you will describe. If there are any words that you have difficulty reading please ask me about them.

APPENDIX H: RESIDENT'S INTRODUCTION

I'm Sandy Genser, fourth year medical student, and I am asking you to participate and allow your patient _____to participate in a project designed to help us learn how people feel about themselves and various others during their weeks of hospitalization.

This project will require no more than one half hour a week for two weeks from you and your patient during which you will fill out a relatively simple questionnaire. Anything you and your patient say or write will be kept strictly confidential,(even from each other) and used only for statistically during the course of the study. Your patient will know that you have given permission for his participation in the study but will be asked to volunteer with the clear stipulation that the choice is his. He will not know that you have any part in the study other than granting your initial permission.

To minimize the imposition on your time I can leave the entire questionnaire in your mailbox on the ward the day it should be completed and ask that you do it any time after your last planned significant interaction with your patient that day and return it to your mailbox for me to pick up. I would probably be able on any particular day to administer the questionnaire myself in the early evening. I will try and see to it that only one of your patients is used in the study.

If you have to get in contact with me you can call me any time and leave a message at the residential dormitory, extension 2115 or 777-5388.

Your questionnaire will consist of three parts:

APPENDIX H : CONTINUED

1. Preliminary information - only filled out once socioeconomic and diagnostic data.
2. Mental status, abbreviated - filled out <u>without</u> special session with the patient (and naturally omitting formal testing of diget span, etc.)
3. Semantic differential

APPENDIX I : PATIENT'S INTRODUCTION

I'm Sander Genser and I'm asking you to participate in a project designed to help us learn more about how people feel about themselves and various other people during their stay in the hospital.

The project will require no more than one half hour per week for two weeks during which you will fill out a questionnaire requiring only check marks that I will explain to you if you decide to participate.

Anything that you say or write will be kept strictly confidential and as such will not influence in any way your stay on the ward. In fact your questionnaire will be studied with a computer so that the results will be numbers or statistics and will not contain your name. Although your Doctor has given permission for you to participate in this study even he will not have access to your responses.

I am asking you to participate knowing full well that while the study may help other people in the future it is not designed to help you personally... although you may find that it does help you clarify your feelings somewhat.

Since I need your co-operation at a time when you may feel least able or willing I can only ask you to volunteer. The decision is yours.

APPENDIX J : RELIABILITY DATA
1

APPENDIX J : RELIABILITY DATA

APPENDIX K: Table One

Immediate Test - Retest Pearson Product Moment Correlation Coefficients

SCALE	NEUROTIC	PSYCHOTIC	RESIDENT	OVERALL
Crowded-Alone	.587	.476*	.859	.607
Thing-Person	.481*	.859	.741	.784
Incomplete-Complete	.616	.903	.883	.796
Disorderly-Orderly	.724	.890	.939	.839

* Significant at .05 level, all others significant at .01 level.

APPENDIX K: Table Two

One Week Test-Retest Pearson Product-Moment Correlation Coefficients

SCALE(named by standard order) (see Appendix C)	NEUROTIC	PSYCHOTIC	RESIDENT
1.	.384	.762	.407
2.	.564	.329*	.756
3.	.364	.370	.507
4.	.568	.421	.769
5.	.742	.465	.737
6.	.664	.785	.811
7.	.665	.514	.869
8.	.450	.485	.843
9.	.567	.616	.740
10.	.611	.816	.374
11.	.702	.567	.614
12.	.662	.390	.660
13.	.515	.434	.635
14.	.483	.663	.667
15.	.443	.645	.630
16.	.344*	.747	.664
17.	.517	.812	.660
18.	.608	.744	.843
19.	.679	.572	.779
20.	.734	.704	.810
21.	.716	.615	.915
22.	.729	.657	.758
23.	.467	.660	.678
24.	.393	.692	.774
25.	.631	.705	.836
26.	.477	.517	.825
27.	.568	.671	.848
28.	.786	.679	.747
29.	.545	.556	.757
30.	.436	.544	.573
31.	.613	.461	.647
32.	.536	.622	.808
33.	.793	.944	.935
34.	.610	.713	.741
35.	.491	.415	.797

* = Significant at the .05 level, all others at the .01 level.

TABLE THREE

T-TESTS OF IMMEDIATE TEST - RETEST SCORE DIFFERENCES - NEUROTICS

COMPUTATION OF T-TESTS

COMPARISION OF SINGLE MEAN FOR NEUROTICS VS. ZERO REFERENCE POINT

VARIABLE DESCRIPTION	VAR	NO.		GROUP 1.	REFERENCE	DIFFERENCE	S.E	MATCH TEST D.F	T-TEST	SIGNIFICANCE
CROWDED-ALONE	VAR	1	MEAN	0.292	0.000	0.292	0.298	23.0	0.979	(P= 0.338)
			SD	1.459						
			N	24						
THING-PERSON	VAR	2	MEAN	-0.042	0.000	-0.042	0.221	23.0	-0.189	(P=1.000) APPROX
			SD	1.083						
			N	24						
INCOMPLETE -COMPLETE	VAR	3	MEAN	-0.583	0.000	-0.583	0.345	23.0	-1.689	(P=0.105)
			SD	1.692						
			N	24						
DISORDERLY - ORDERLY	VAR	4	MEAN	0.625	0.000	0.625	0.254	23.0	2.460*	(P=0.022)
			SD	1.245						
			N	24						

TABLE FOUR

T-TESTS OF IMMEDIATE TEST - RETEST SCORE DIFFERENCES - PSYCHOTICS

COMPUTATION OF T-TESTS

COMPARISION OF SINGLE MEAN FOR PSYCHOTICS VS. ZERO REFERENCE POINT

VARIABLE DESCRIPTION	VAR	NO.		GROUP 2.	REFERENCE	DIFFERENCE	S.E	D.F	MATCH TEST T-TEST	SIGNIFICANCE
CROWDED-ALONE	VAR	1	MEAN	0.125	0.000	0.125	0.353	23.0	0.355	(P=o.726)
			SD	1.727						
			N	24						
THING - PERSON	VAR	2	MEAN	-0.125	0.000	-0 125	0.220	23 0	-0.569	(P=0.575)
			SD	1.076						
			N	24						
INCOMPLETE - COMPLETE	VAR	3	MEAN	0.083	0.000	0.083	0.180	23	0.464	(P=0.266)
			SD	0.881						
			N	24						
DISORDERLY - ORDERLY	VAR	4	MEAN	-0 250	0.000	-0.250	0.219	23	-1.141	(P=0.266)
			SD	1.073						
			N	24						

TABLE FIVE

T-TESTS OF IMMEDIATE TEST - RETEST SCORE DIFFERENCES - RESIDENTS

COMPUTATION OF T - TESTS

COMPARISION OF SINGLE MEAN FOR RESIDENTS VS. ZERO REFERENCE POINT

VARIABLE DESCRIPTION	VAR	NO.		GROUP 3	REFERENCE	DIFFERENCE	S.E	D.F	MATCH TEST T-TEST	SIGNIFICA
CROWDED - ALONE	VAR	1	MEAN	-0.207	0.000	-0.207	0.125	28.0	-1.651	(P=0.110)
			SD	0.675						
			N	29						
THING - PERSON	VAR	2	MEAN	0.034	0.000	0.034	0.168	28.0	0.205	(P=1.000) APPROX
			SD	0.906						
			N	29						
INCOMPLETE - COMPLETE	VAR	3	MEAN	-0.129	0.000	-0.129	0.152	30.0	-0.849	(P=0.403)
			SD	0.846						
			N	31						
DISORDERLY - ORDERLY	VAR	4	MEAN	0.034	0.000	0.034	0.093	28.0	0.372	(P=0.712)
			SD	0 499						
			N	29						

APPENDIX J: FACTOR ANALYSES AND VARIMAX ROTATIONS

TABLE ONE
NEUROTIC FACTOR ANALYSES - COMPUTATIONAL PARAMETERS

Principal components solution

Criterion for number of factors

A. Maximum number of factors = 8

B. Minimum latent root = 1.00

C. Minimum percent of communality = 10.00

Record of factors extracted

Factor 1	latent root =	10.703	in	18 iterations
Factor 2	latent root =	3.363	in	32 iterations
Factor 3	latent root =	2.535	in	28 iterations
Factor 4	latent root =	1.930	in	32 iterations
Factor 5	latent root =	1.512	in	26 iterations

Factor extractions terminated by stopping criterion (C)

TABLE TWO - NEUROTIC FACTOR ANALYSIS

VARIABLE DESCRIPTION			PRINCIPAL COMPONENTS FACTOR LOADINGS					
	VAR	NO.	1.	2.	3.	4.	5.	COMMUNALITY
bad-good	VAR	1	.564	-.473	.189	-.291	181	.695
dishon-hones	VAR	2	.620	-.061	.468	-.102	-.020	.618
hiden-reveal	VAR	3	.509	-.298	-.415	.177	.016	.551
pessim-optim	VAR	4	.605	-.195	-.445	-.175	.151	.655
dread-hope	VAR	5	.576	-.227	-.291	.051	.216	.517
anxus-calm	VAR	6	.706	.277	-.141	-.286	-.004	.677
tense-relax	VAR	7	.628	.168	-.263	-.409	.084	.666
shrink-grow	VAR	8	·493	.117	-.340	.203	.404	.577
depres-elate	VAR	9	.624	.175	-.323	-.244	-.215	.630
guilt-innoc	VAR	10	.390	-.487	.389	-.400	.120	.715
unpred-pred	VAR	11	.434	-.383	.163	.136	-.138	.398
chngrl-strl	VAR	12	.551	.271	.305	-.204	.147	.534
fragl-durbl	VAR	13	.638	.274	.011	.221	-.227	.583
incnst-cnst	VAR	14	.620	-.038	.333	-.103	-.191	.544
pzlng-undst	VAR	15	.541	-.239	-.096	-.027	-.109	.371
mngls-mngfl	VAR	16	.656	-.092	.096	.181	.163	.507
dsord-ord	VAR	17	.314	-.229	.473	.049	-.226	.429
emot-reason	VAR	18	.440	.527	.281	.031	.289	.635
dstnd-free	VAR	19	.410	371	.052	-.109	.455	.528
irresp-resp	VAR	20	.728	-.101	.372	-.018	-.180	.711
dpndt-indpnd	VAR	21	.296	.594	.254	.071	.212	.555
indcsv-dcsv	VAR	22	.698	.187	.176	.136	-.022	.559
thing-person	VAR	23	.216	-.368	.026	.468	.263	.471
pasiv-activ	VAR	24	.497	-.178	-.121	.470	-.127	.530
incomp-comp	VAR	25	.788	-.095	-.009	-.027	-.128	.647
broken-whole	VAR	26	.681	.147	-.140	-.121	-.211	.565
abnrml-nrml	VAR	27	.599	-.269	.379	.046	-.067	.581
empty-full	VAR	28	.719	-.107	-.353	-.142	-.183	.707
vague-dstnct	VAR	29	.592	-.207	-.126	.344	.198	.567
unreal-real	VAR	30	.558	-.128	-.141	.325	.145	.474
soft-hard	VAR	31	.029	.603	.138	.486	-.249	.681
weak-strong	VAR	32	.628	.323	.172	1307	-.071	.631
fem-masculin	VAR	33	.407	.490	-.052	- 153	.215	.478
sens-insens	VAR	34	.122	.538	-.168	-.113	-.297	.433
crowd-alone	VAR	35	-.562	-.040	.397	.011	.382	.622
	LATENT ROOTS		10.703	3.363	2.535	1.930	1.512	20.042

TABLE THREE
NEUROTIC FACTOR ANALYSIS - ORTHOGONAL VARIMAX ROTATION

(LOADINGS OF ORIGINAL FACTORS ON NEW FACTORS)

	NEW FACTORS 1	2	3	4	5
ORIGINAL FACTOR NO. 1	.587	.392	.542	.456	.001
ORIGINAL FACTOR NO. 2	.119	.665	-.306	-.360	-.565
ORIGINAL FACTOR NO. 3	-.584	.226	.719	-.297	-.057
ORIGINAL FACTOR NO. 4	-.379	-.136	-.043	.658	-.635
ORIGINAL FACTOR NO. 5	-.396	.578	-.307	.376	.523

bad-good	VAR	1	.203	.093	.543	.248	.537	.695
dishon-hones	VAR	2	.130	.311	.701	.091	.063	.618
hiden-reveal	VAR	3	.432	-.108	.056	.585	.088	.551
pessim-optim	VAR	4	.598	.118	029	.420	.326	.655
dread-hope	VAR	5	.376	.126	.104	.546	.226	.517
anxus-calm	VAR	6	.639	.466	.210	.075	.032	.677
tense-relax	VAR	7	.664	.403	.091	.067	.224	.666
shrink-grow	VAR	8	.265	.400	-.146	.570	.037	.577
depres-elate	VAR	9	.754	.197	.129	.077	-.038	.630
guilt-innoc	VAR	10	.048	.041	.621	.020	.571	.715
unpred-pred	VAR	11	.117	-.146	.505	.325	.049	.398
chngrl-strl	VAR	12	.196	.578	.399	-.015	.036	.534
fragl-durbl	VAR	13	.406	.274	.330	.249	-.415	.583
incnst-cnst	VAR	14	.279	.197	.650	.058	-.031	.544
pzlng-undst	VAR	15	.398	-.027	.332	.303	.101	.371
mngls-mnglf	VAR	16	.185	.287	.395	.484	.018	.507
dsord-ord	VAR	17	-.408	-.059	.648	.032	-.047	.429
emot-reason	VAR	18	.030	.749	.189	.057	-.182	.635
dstnd-free	VAR	19	.116	.697	.011	.137	.095	.528
irresp-resp	VAR	20	.276	.201	.748	.179	-.046	.711
dpndt-indpnd	VAR	21	-.015	.682	.093	-.028	-.285	.555
indcsv-dcsv	VAR	22	.281	.403	.443	.276	-.213	.559
thing-person	VAR	23	-.214	-.066	.147	.630	.047	.471
pasiv-activ	VAR	24	.213	-.088	.255	.588	-.257	.530
incomp-comp	VAR	25	.518	.174	.490	.331	.005	.647
broken-whole	VAR	26	.629	.228	.294	.141	-.108	.565
abnrml-nrml	VAR	27	.107	.097	.698	.262	.067	.581
empty-full	VAR	28	.742	.045	.231	.309	.076	.707
vague-dstnct	VAR	29	.187	.133	.218	.683	.010	.567
unreal-real	VAR	30	.214	.141	.181	.611	-.049	.474
soft-hard	VAR	31	-.077	.234	-.015	-.019	-.788	.681
weak-strong	VAR	32	.218	.421	.372	.293	-.427	.631
fem-masculin	VAR	33	.300	.619	-.027	.005	-.064	.478
sens-insens	VAR	34	.394	.212	-.123	-.274	-.378	.433
crowd-alone	VAR	35	-.722	.062	-.125	-.209	.192	.622
	SUMS OF SQUARES		5.111	3.806	4.913	3.937	2.276	20.042

TABLE FIVE

PSYCHOTIC FACTOR ANALYSIS - COMPUTATIONAL PARAMETERS

PRINCIPAL COMPONENTS SOLUTION

CRITERION FOR NUMBER OF FACTORS

A. MINIMUM NUMBER OF FACTORS =8

B. MAXIMUN LATENT ROOT = 1.00

C. MINIMUM PERCENT OF COMMUNALITY = 10.00

RECORD OF FACTORS EXTRACTED

A. FACTOR 1 LATENT ROOT = 14.058 IN 20 ITERATIONS

B. FACTOR 2 LATENT ROOT = 3.580 IN 22 ITERATIONS

C. FACTOR 3 LATENT ROOT = 1.813 IN 28 ITERATIONS

FACTOR EXTRACTION TERMINATED BY STOPPING CRITERION (C)

VARIABLE DESCRIPTION	VAR	NO.	1.	2.	3.	COMMUNALITY
BAD-GOOD	VAR	1	.812	-.128	-.057	.678
DISHON-HON	VAR	2	.579	-.427	.084	.525
HIDEN-REVEAL	VAR	3	.268	-.101	-.094	.091
PESSIM-OPTIM	VAR	4	.694	.231	-.212	.579
DREAD-HOPE	VAR	5	.765	.132	-.063	.607
ANXUS-CALM	VAR	6	.645	.493	-.115	.673
TENSE-RELAX	VAR	7	.616	.475	-.162	.632
SHRINK-GROW	VAR	8	.683	-.180	-.193	.536
DEPRES-ELATE	VAR	9	.625	.446	-.067	.594
GUILT-INNOC	VAR	10	.775	.021	-.096	.611
UNPRED-PRED	VAR	11	.511	-.249	.238	.380
CHNGBL-STBL	VAR	12	.623	-.038	.336	.502
FRAGL-DURBL	VAR	13	.406	.272	.475	.464
INCNST-CNST	VAR	14	.760	-.421	.234	.663
PZLNG-UNDST	VAR	15	.704	-.124	-.008	.673
MNGLS-MNGFL	VAR	16	.797	-.159	-.177	.682
DSORD-ORD	VAR	17	.571	.547	.402	.513
EMOT-REASON	VAR	18	.393	.201	.058	.458
DSTND-FREE	VAR	19	.545	-.312	-.335	.449
IRRESP-RESP	VAR	20	.682	.226	.327	.670
DPNDT-INDPND	VAR	21	.541	-.035	.316	.444
INDCSV-DCSV	VAR	22	.669	-.217	.271	.522
THING-PERSON	VAR	23	.567	-.258	-.356	.496
PASIV-ACTIV	VAR	24	.479	.116	.319	.398
INCOMP-COMP	VAR	25	.790	.105	-.008	.638
BROKEN-WHOLE	VAR	26	.784	-.065	-.113	.638
ABNRML-NRML	VAR	27	.697	.056	-.121	.505
EMPTY-FULL	VAR	28	.842	-.281	-.126	.727
VAGUE-DSTNCT	VAR	29	.773	-.146	.142	.697
UNREAL-REAL	VAR	30	.760	.715	-.269	.671
SOFT-HARD	VAR	31	-.002	.175	.270	.584
WEAK-STRONG	VAR	32	.757	.614	.099	.614
FEM-MASCULIN	VAR	33	.256	.696	.120	.457
SENS-INSENS	VAR	34	-.348	.173	.191	.641
CROWD-ALONE	VAR	35	-.498	-.273	.343	440
	LATENT ROOTS		14.058	3.580	1.813	19.451

TABLE SEVEN

PSYCHOTIC FACTOR ANALYSIS - ORTHOGONAL VARIMAX ROTATION

ORTHOGONAL TRANSFORMATION MATRIX

(LOADINGS OF ORIGINAL FACTORS ON NEW FACTORS)

	NEW FACTORS 1	2	3
ORIGINAL FACTOR NO. 1	.731	.178	.659
ORIGINAL FACTOR NO. 2	.133	.910	-.392
ORIGINAL FACTOR NO. 3	-.670	.374	.641

TABLE EIGHT - PSYCHOTIC FACTOR ANALYSIS

VARIABLE DESCRIPTION	VAR	NO.	ROTATED FACTOR LOADINGS 1.	2.	3.	COMMUNALITY
BAD-GOOD	VAR	1	.614	.006	.549	.678
DISHON-HON	VAR	2	.310	-.255	.603	.525
HIDEN-REVEAL	VAR	3	.245	-.079	.156	.091
PESSIM-OPTIM	VAR	4	.679	.255	.231	.579
DREAD-HOPE	VAR	5	.619	.232	.412	.607
ANXUS-CALM	VAR	6	.613	.521	.158	.673
TENSE-RELAX	VAR	7	.622	.481	.116	.632
SHRINK-GROW	VAR	8	.604	-.115	.397	.536
DEPRES-ELATE	VAR	9	.561	.492	.194	.594
GUILT-INNOC	VAR	10	.633	.121	.441	.611
UNPRED-PRED	VAR	11	.181	-.047	.588	.380
CHNGBL-STBL	VAR	12	.224	.202	.641	.502
FRAGL-DURBL	VAR	13	.015	.497	.466	.464
INCNST-CNST	VAR	14	.375	.063	.720	.663
PZLNG-UNDST	VAR	15	.464	-.261	.625	.673
MNGLS-MNGFL	VAR	16	.684	-.037	.461	.682
DSORD-ORD	VAR	17	.127	.107	.697	.513
EMOT-REASON	VAR	18	.321	.590	.082	.458
DSTND-FREE	VAR	19	.649	.155	066	.449
IRRESP-RESP	VAR	20	.238	-.040	782	.670
DPNDT-INDPND	VAR	21	.213	420	.471	444
INDCSV-DCSV	VAR	22	.302	.189	.628	.522
THING-PERSON	VAR	23	.624	-.230	.231	.496
PASIV-ACTIV	VAR	24	.102	-.031	.622	.398
INCOMP-COMP	VAR	25	.598	.243	.470	.638
BROKEN-WHOLE	VAR	26	.662	.192	.403	.638
ABNRML-NRML	VAR	27	.582	.019	.408	.505
EMPTY-FULL	VAR	28	.707	.153	.452	.727
VAGUE-DSTNCT	VAR	29	.432	-.066	.711	.697
UNREAL-REAL	VAR	30	.716	-.099	.386	.671
SOFT-HARD	VAR	31	-.088	.752	-.108	.584
WEAK-STRONG	VAR	32	.510	.330	.494	.614
FEM-MASCULIN	VAR	33	.188	.650	.005	.457
SENS-INSENS	VAR	34	-.289	.643	-.379	.641
CROWD-ALONE	VAR	35	-.630	-.208	-.001	.440
	SUMS OF SQUARES		8.378	3.663	7.409	19.451

TABLE NINE - DEFINITION OF THE VARIMAX ROTATED FACTORS - NEUROTIC GROUP

FACTOR NAME	FACTOR NUMBER	LATENT ROOT	PERCENT OF COMMUNALITY	DEFINING SCALES	SCALE LOADINGS (ABOVE .600)
DEPRESSIVE INACTNESS	1	5.111	25%	depressed-elated	.754
				empty-full	.742
				tense-relaxed	.664
				anxious-calm	.639
				broken-whole	.629
				alone-crowded	.722
CAUSAL POTENCY	2	3.806	19%	emotional-reasoning	.749
				destined-free	.697
				dependent-independent	.682
				feminine-masculine	.619
EVALUATIVE	3	4.913	24%	irresponsible-responsible	.748
				dishonest-honest	.701
				abnormal-normal	.698
				inconsistent-consistent	.650
				disorderly-orderly	.648
				guilty-innocent	.621
EXISTENTIAL INTACTNESS	4	3.937	20%	vague-distinct	.683
				thing-person	.630
				unreal-real	.611
GUILT-POTENCY	5	2.276	12%	soft-hard	-.788

TABLE 10 - DEFINITION OF THE VARIMAX ROTATED FACTORS - PSYCHOTIC GROUP

FACTOR NAME	FACTOR NUMBER	LATENT ROOT	PERCENT OF COMMUNALITY	DEFINING SCALES	SCALE LOADINGS (ABOVE .600)
EXISTENTIAL INACTNESS	1	8.378	43%	unreal-real	.716
				empty-full	.707
				meaningless-meaningful	.684
				pessimistic-optimistic	.679
				destined-free	.649
				broken-whole	.662
				thing-person	.624
				guilty-innocent	.633
				tense-relaxed	.622
				dreading-hopeful	.619
				anxious-calm	.613
				bad-good	.614
				alone-crowded	.630
				shrinking-growing	.604
POTENCY	2	3.663	19%	soft-hard	.752
				feminine-masculine	.650
				sensitive-insensitive	.643
STABILITY (INDECISION)	3	7.409	38%	irresponsible-responsible	.782
				inconsistent-consistent	.720
				vague-distinct	.711
				disorderly-orderly	.697
				changeable-stable	.641
				indecisive-decisive	.628
				puzzling-understandable	.625
				passive-active	.622
				dishonest-honest	.603

APPENDIX K: COMPARISION OF GROUPS ON IDENTIFICATION DATA AND MENTAL STATUS

PSYCHOTIC VS NEUROTIC I.D. DATA

Cell Percent Based On Column Sum Contingency Table No. 1

VAR 1 CLASSIFICATION

	NEUROTIC	PSYCHOTIC	TOTAL	PERCENT
10-25	50.0	58 3		
	6	7	13	54.2
25-40	16.7	33.3		
R 2	2	4	6	25.0
	25.0			
40-55	3		3	12.5
	8.3	8.3		
ABOVE 55	1	1	2	8.3
	L2	12	24	
NT	50.0	50.0		100.0

UARE STATISTIC =3.744 WITH 3 DEGREES OF FREEDOM (SIGNIFICANT AT THE
L EVEL)

PSYCHOTIC VS. NEUROTIC I.Q. DATA

Cell Percent Based On Column Sum Contingency Table No.2

VAR 1 CLASSIFICATION

	NEUROTIC	PSYCHOTIC	TOTAL	PERCENT
SUPERIOR	3 25.0	3 25.0	6	25.0
BRIGHT 3 GENCE	4 33.3	6 25.0	10	41.7
AVERAGE	5 41.7	3 25.0	8	33.3
TOTAL	12	12	24	
PERCENT	50.0	50.0		100.0

RE STATISTIC = 0.900 WITH 2 DEGREES OF FREEDOM (NOT SIGNIFICANT)

PSYCHOTIC VS. NEUROTIC DATA

Cell Percent Based On Column Sum Contingency Table No.3

VAR 1 CLASSIFICATION

	NEUROTIC	PSYCHOTIC	TOTAL	PERCENT
	25.0	33.3		
GRADE SCHOOL	3	4	7	29.2
	50.0	50.0		
HIGH SCHOOL	6	6	12	50.0
4				
ON DONE	16.7	8.3		
COLLEGE	2	1	3	12.5
	8.3	8.3		
GRADUATE SCHOOL	1	1	2	8.3
TOTAL	12	12	24	
PERCENT	50.0	50.0		100.0

ARE STATISTIC = 0.476 WITH THREE DEGREES OF FREEDOM (NOT SIGNIFICANT)

PSYCHOTIC VS. NEUROTIC I D. DATA

Cell Percent Based On Column Sum — Contingency Table No. 4

VAR 1 CLASSIFICATION

	NEUROTIC	PSYCHOTIC	TOTAL	PERCENT
UPPER	16.7	16.7		
	2	2	4	16.7
	66.7	75.0		
MIDDLE				
R 5	8	9	17	70.8
ECONOMIC CLASS	16 7	8.3		
LOWER				
	2	1	3	12.5
TOTAL	L2	12	24	
PERCENT	50.0	50.0		100.0

ARE STATISTIC = 0.392 WITH 2 DEGREES OF FREEDOM (NOT SIGNIFICANT)

PSYCHOTIC VS. NEUROTIC I D DATA

Cell Percent Based on Column Sum — Contingency Table No.5

VAR 1 CLASSIFICATION

	NEUROTIC	PSYCHOTIC	TOTAL	PERCENT
	50.0	50.0		
ALE	6	6	12	50.0
6				
	50.0	50.0		
EMALE	6	6	12	50.0
OTAL	L2	12	24	
ERCENT	50 0	50.0		100 0

HISQUARE = 0 (CONTINUALLY CORRECTED) (NOT SIGNIFICANT)

PYSCHOTIC VS. NEUROTIC I.D. DATA

Cell Percent Based On Column Sum Contingency Table No.6

VAR 1 CLASSIFICATION

	NEUROTIC	PSYCHOTIC	TOTAL	PERCENT
		25.0		
HOTIC		2	2	10.0
		62.5		
TWO		5	5	25.0
		12.5		
THREE		1	1	5.0
NEUTRAL				
IS RATING FOR DMINISTRATION	16.7			
FIVE	2		2	10.0
	41.7			
SIX	5		5	25.0
PSYCHOTIC	5		5	25.0
TOTAL	12	8	20	
PERCENT	60.0	40.0		100.0

RE STATISTIC = 20.000** WITH 6 DEGREES OF FREEDOM (SIGNIFICANT AT THE EVEL)
MISSING UNITS = 4

PSYCHOTIC VS. NEUROTIC I.D. DATA

Cell Percent Based On Column Sum Contingency Table No.7

VAR 1 CLASSIFICATION

	NEUROTIC	PSYCHOTIC	TOTAL	PERCENT
		44.4		
YCHOTIC		4	4	21.1
		11.1		
O		1	1	5.3
		33.3		
REE		3	3	15.8
	10.0	11 1		
EUTRAL				
8	1	1	2	10.5
S RATING FOR ADMINISTRATION	10.0			
VE				
	1		1	5.3
	40.0			
X	4		4	21.1
	40.0			
N-PSYCHOTIC	.4		4	21.1
	10	9	19	
TAL				
RCENT	52.6	47.4		100.0

RE STATISTIC = 16.994** WITH 6 DEGREES OF FREEDOM (SIGNIFICANT AT THE EVEL)
MISSING UNITS = 5

PSYCHOTIC VS. NEUROTIC I.D. DATA

Cell Percent Based On Column Sum Contingency Table No. 8

VAR 1 CLASSIFICATION

	NEUROTIC	PSYCHOTIC	TOTAL	PERCENT
NEUROTIC	58.3 7		7	35.0
TWO	33.3 4		4	20.0
THREE	8.3 1	50.0 4	5	25.0
NEUTRAL		37.5		
VR 9		3	3	15.0
SS RATING FOR DMINISTRATION FIVE				
		12.5		
SIX		1	1	5.0
NON-NEUROTIC				
TOTAL	12	8	20	100.0
PERCENT	60.0	40.0		

URE STATISTIC = 16.667* WITH 6 DEGREES OF FREEDOM (SIGNIFICANT AT THE EVEL)

F MISSING UNITS = 4

PSYCHOTIC VS. NEUROTIC I.D. DATA

Cell Percent Based On Column Sum — Contingency Table No. 9

VAR 1 CLASSIFICATION

	NEUROTIC	PSYCHOTIC	TOTAL	PERCENT
	40.0			
NEUROTIC				
	4		4	21.1
	50.0	11.1		
TWO				
	5	1	6	31.6
	10.0	33.3		
THREE				
	1	3	4	21.1
NEUTRAL				
10				
IS RATING FOR SECOND		22.2		
STRATION				
FIVE				
		2	2	10.5
SIX				
		33.3		
NON-NEUROTIC				
		3	3	15.8
TOTAL	10	9	19	
PERCENT	52.6	47.4		100.0

RE STATISTIC = 12.649* WITH 6 DEGREES OF FREEDOM (SIGNIFICANT AT THE EVEL)

MISSING UNITS = 5

PSYCHOTIC VS. NEUROTIC I.D. DATA

Cell Percent Based On Column Sum — Contingency Table No. 10

VAR 1 CLASSIFICATION

	NEUROTIC	PSYCHOTIC	TOTAL	PERCENT
	10.0			
ELL	1		1	4.8
WO				
	30.0			
	3		3	14.3
	50.0			
OUR	5		5	23.8
F 11				
ICKNESS RATING				
.ST ADMINISTRATION		27.3		
'IVE		3		
	10.0	54.5		
IX	1	6	7	33.3
		18.2		
ICK		2	2	9.5
OTAL	10	11	21	
ERCENT	47.6	52.4		100.0

ARE STATISTIC = 17.564** WITH 6 DEGREES OF FREEDOM (SIGNIFICANT AT THE .EVEL)
MISSING UNITS = 3

PSYCHOTIC VS. NEUROTIC I. D. DATA

Cell Percent Based On Column Sum — Contingency Table No. 11

VAR 1 CLASSIFICATION

	NEUROTIC	PSYCHOTIC	TOTAL	PERCENT
	11.1			
WELL	1		1	5.3
	11.1			
TWO	1		1	5.3
	33.3			
THREE	3		3	15.8
	22.2	20.0		
FOUR	2	2	4	21.1
12				
ICKNESS RATING	11.1	50.0		
OND ADMINISTRATION				
FIVE	1	5	6	31.6
	11.1	20.0		
SIX	1	2	3	15.8
SICK		10.0		
		1	1	5.3
TOTAL	9	10	19	
PERCENT	47.4	52.6		100.0

RE STATISTICS = 12.595 WITH 6 DEGREES OF FREEDOM (SIGNIFICANT TO THE 0.050

MISSING UNITS = 5

PSYCHOTIC VS. NEUROTIC I.D. DATA

Cell Percent Based On Column Sum Contingency Table No. 12

VAR 1 CLASSIFICATION

	NEUROTIC	PSYCHOTIC	TOTAL	PERCENT
	41.7	54.5		
-10	5	6	11	47.8
	33.3	9.1		
0-20				
	4	1	5	21.7
13				
N HOSPITAL				
0-30				
	25.0	36.4		
VER 30				
	3	4	7	30.4
OTAL	12	11	23	
ERCENT	52.2	47.8		100.0

RE STATISTICS = 1.994 WITH 3 DEGREES OF FREEDOM (NOT SIGNIFICANT)
MISSING UNITS = 1

Cell Percent Based On Column Sum — Contingency Table No. 13

VAR. 7 PSYCHOSIS RATING FOR THE FIRST ADMINISTRATION

VAR 8 PSYCHOSIS RATING FOR SECOND ADMINISTRATION	PSYCHOTIC	TWO	THREE	NEUTRAL	FIVE	SIX	NON-PSYCHOTIC	TOTAL	PERCENT
PSYCHOTIC	100.0 1	40.0						3	17.6
TWO		20.0 1						1	5.9
THREE		40.0 2	100.0 1					3	17.6
NEUTRAL							20.0 1	1	5.9
FIVE					100.0 1			1	5.9
SIX						75.0 3	20.0 1	4	23.5
NON-PSYCHOTIC						25.0 1	60.0 3	4	23.5
TOTAL	1	5	1		1	4	5		
PERCENT	5.9	29.4	5.9		5.9	23.5	29.4		100.0

CHISQUARE STATISTIC = 46.325 WITH 36 DEGREES OF FREEDOM (SIGNIFICANT AT THE 0.119 LEVEL)
NO. OF MISSING UNITS = 7

PSYCHOTIC VS NEUROTIC I.D. DATA

Cell Percent Based On Column Sum

Contingency Table No. 14

VAR 9 NEUROSIS RATING FOR THE FIRST ADMINISTRATION

VAR 10 NEUROSIS RATING FOR SECOND ADMINISTRATION	NEURO-TIC	TWO	THREE	NEUTRAL	FIVE	SIX	NON-NEURO-TIC	TOTAL	PERCENT
NEUROTIC	66.7 4							4	23.5
TWO	33.3 2	100.0 3						5	29.4
THREE			60.0 3	50.0 1				4	23.5
NEUTRAL									
FIVE			20.0 1	50.0 1				2	11.8
SIX									
NON-NEUROTIC			20.0 1			100.0 1		2	11.8
TOTAL	6	3	5	2		1		17	
PERCENT	35.3	17.6	29.4	11.8		5.9			100.0

CHISQUARE STATISTIC = 32.725 WITH 36 DEGREES OF FREEDOM (NOT SIGNIFICANT)
NO. OF MISSING UNITS = 7

TABLE FIFTEEN

DIAGNOSES OF THE 24 PATIENTS

NEUROTIC GROUP PATIENT NUMBER	DIAGNOSIS
1	adolescent adjustment reaction
2	neurotic depression
3	neurotic depression
4	narcisstic character disorder
5	neurotic depression; passive dependent personality;obsessive features
6	obsessive compulsive neurosis
7	neurotic depression
8	neurotic depression
9	neurotic depression
10	sociopath;hysterical character
11	depression
12	chronic neurotic depression; antisocial behavior; hysterical personality
PSYCHOTIC GROUP PATIENT NUMBER	
13	schizophrenia - paranoid
14	schizophrenia - acute
15	schizophrenia
16	schizophrenia - chronic paranoid
17	schizophrenia - chronic indifferentiated
18	schizophrenia
19	schizophrenia - hysterical character disorder
20	borderline points - behavioral disorder and epilepsy
21	schizophrenia - schizo-affective
22	schizophrenia

23	schizophrenia
24	schizophrenia

schizophrenia

schizophrenia

APPENDIX L: EXPLORATION OF DECISION - MAKING HYPOTHESIS

TABLE ONE

COMPARISION OF GROUPS ON EQUALITY OF FREQUENCY DISTRIBUTION OF

THE SEVEN ALTERNATIVES - UNREARRANGED DATA

ALTERNATIVES (1-7 = EXTREME LEFT TO EXTREME RIGHT)	NEUROTICS FREQUENCIES	PSYCHOTICS FREQUENCIES	CHI-SQUARE TESTS OF RANDOM DISTRIBUTION OF EACH OF THE ALTERNATIVES INDIVDUAL CHI-SQUARES (DF=1)
1	536	611	4.90*
2	488	385	12.16**
3	525	436	8.24**
4	427	661	50.32**
5	474	369	13.08**
6	516	423	9.20**
7	490	571	6.18*

TOTAL CHI-SQUARE (DF=6) = 104.08**

FOR DF =1

* = CHI - SQUARE GREATER THAN 3.84 (SIGNIFICANT AT .05 LEVEL)

** = CHI - SQUARE GREATER THAN 6.64 (SIGNIFICANT AT .01 LEVEL)

FOR DF =6

** = CHI - SQUARE GREATER THAN 16.8 (SIGNIFICANT AT .0 LEVEL)

HODGMAN P.252

TABLE TWO

CHI - SQUARE TEST OF EACH GROUP'S UNBIASED USE OF LEFT AND RIGHT SIDES OF SEMANTIC DIFFERENTIAL

UP	FREQUENCY OF USE OF LEFT SIDE ALTERNATIVES (1+2+3)	FREQUENCY OF USE OF RIGHT SIDE ALTERNATIVES (5+6+7)	CHI-SQUARES (DF=1)
HOTICS	1431	1397	1.66
OTICS	1549	1480	1.57

DF=1

* = CHI -SQUARE GREATER THAN 3.84 (SIGNIFICANT AT .05 LEVEL)

TABLE THREE

CHI - SQUARE TEST OF OVERALL CHI - SQUARE DIFFERENCE BETWEEN THE TWO GROUPS IN LEFT - RIGHT POSITION PREFERENCE ON THE SEMANTIC DIFFERENTIAL

ALTERNATIVES	NEUROTIC FREQUENCIES	PSYCHOTIC FREQUENCIES	CHI- SQUARES (DF=1)
LEFT SIDED (1+2+3)	1549	1431	.0016
RIGHT SIDED (5+6+7)	1480	1363	.0017

TOTAL CHI-SQUARE = .0033 (NOT SIGNIFICANT)

BLE FOUR

I - SQUARE TESTS OF INDIVIDUAL AND COMBINED DIFFERENCES BETWEEN OUPS ON EXTREMENESS OF DECISION CATEGORIES

ORY	ALTERNATIVES DEFINING CATEGORY	NEUROTIC FREQUENCY	PSYCHOTIC FREQUENCY	CHI-SQUARES (DF =1)
ME	1+7	1026	1182	11.02**
	2+6	1004	808	21.20**
TLY	3+5	999	805	20.86**
	4	427	661	50.32**

TOTAL CHI- SQUARE =93.40**
(DF=3)

F=1

* = CHI-SQUARE GREATER THAN 3.84 (SIGNIFICANT AT .01 LEVEL)

F=3

* = CHI-SQUARE GREATER THAN 11 34 (SIGNIFICANT AT .01 LEVEL)

FOOTNOTES

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